BEFORE THE

FEDERAL ENERGY REGULATORY COMMISSION

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STANDARD MARKET DESIGN   :

CONTINUING EFFORTS TO   :   Docket Number

STANDARDIZE INPUTS AND OUTPUTS :   RM01-12-000

FOR ELECTRIC MARKET SOFTWARE   :

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                    Commisssion Meeting Room

                    Federal Energy Regulatory Commission

                    888 First Street, NE

                    Washington, D.C.

                    Thursday, October 3, 2002

        The above-entitled matter commenced at 9:03 a.m.

PRESENTERS:

        John Canavan - Chairman, Electronic Scheduling

                    Collaborative

        Jim Buccigross - Chairman, Executive Committee,

                    NAESB/GISB

        Robert Cummings - Director - Projects, Analysis &

                    Data Services, NERC

Peter Hirsch - Vice President Power Delivery

Markets, EPRI

Gordon van Welie - President/CEO, New England-ISO

Brian Hewson - Manager-Energy Licensing, Market

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Gary Biermann - Director New Program Development

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Association

Jim Buccigross - Chairman, Executive Committee,

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Gordon van Welie - President/CEO, New England-ISO

Jay Britton - Senior Systems Architect,

ALSTOM/ESCA

Gary Michor - President/CEO, The SPI Group

Peter Ristanovic - Executive Consultant, Siemens

Andy Ott - General Manager of Market

Coordination, PJM-ISO

Don Watkins - Chairman, Gommon Systems Interface

Coordination Group

P R O C E E D I N G S

MS. SILVERSTEIN: The boss has asked me to remind you that if you've got luggage, we have a room next door labeled "Press Room" that you can put in, so you don't turn the hallways into a fire hazard. So, if you could, take all your major pieces of luggage and put them next door, whatever direction that is, depending on where you're facing, we'd appreciate it.

(Pause.)

Thank you all for coming today. This is FERC's Second Conference on Software Standardization for Standard Market Design. My name is Alison Silverstein, and I am Advisor to the Chairman, Pat Wood III at FERC.

With me is Dick O'Neill, Mark Rosenberg, and Tom Rieley, from staff. Our goal today -- this is our second conference. Thanks to those of you who participated in the first one.

Our conclusion from that, and, I hope, yours, was that there is a strong consensus that software could work better and that it would be, as we're trying to standardize the markets, it would be helpful if software were corralled a little more constructively so that those of you in the software business can put your efforts into making the insides of the black box better, instead of just working to

make the pieces of the different black boxes fit together.

And so our effort is here to try to get to an endpoint where we have -- hey, Tom. That's Thann Luong, also of Staff -- where we have some agreement on both what better standardization or coordination or rationalization the software would look like, and also on how to get there, and on a set of goals to get us to that end result in the near future to support the whole broader industry effort at standard market design.

To do that, we have the agenda that you have been good enough to pull off the Web in advance, and be interested in attending for. Our first topic is Who Has a Piece of the Standard Setting Space or Task? And the first set of panel members will address that, and then we'll have some discussion about it.

The second is What are the Processes that Work for Getting a Set of Software and Data Standards in Place? Our second panel, therefore, is about process, rather than about content, per se.

And in the third panel, we will go specifically, after lunch, to okay, we've got all this good information, now, what it is that we want to accomplish and how are we going to get there from here? And there will be opportunities for audience participation in all of this, so that if you didn't get invited to sit up at the big table,

don't be shy; we've got microphones and I'm sure, based on what I remember of many of you, that there will not be a lot of shy people in this audience.

We will, by the way, try to avoid having a fire drill today, unless you really enjoyed that at our last conference, in which case, we'll work on it.

Have I forgotten anything, gentlemen?

MR. ROSENBERG: There are agendas and other handouts in the back of the room, if you haven't gotten them.

MS. SILVERSTEIN: We have not hugely scripted this. I have not, for instance, been efficient enough at collecting bios from people, so what we're going to do to start this first panel is invite each of you to go down the row and quickly tell us who you are and what organization you represent, and we're going to start with Mr. Canavan. And then we're going to go back to Mr. Canavan and have him do his presentation, and then we'll work down the row again. So, first, identification, and then after Gordon has told us who he is, we'll go back to you for the start.

And the all-important piece of etiquette is that you have to turn your microphone on before you want to speak; turn it off when you're done talking, and bathrooms are down next to the elevators.

MR. CANAVAN: Well, thank you, and good morning.

My name is John Canavan. I'm an employee of Northwestern Energy, which used to be Montana Power Company, and I'm Chairman of the Electronic Scheduling Collaborative, or ESC.

MR. BUCCIGROSS: Good morning. My name is Jim Buccigross, Chairman of the North American Energy Standards Board Executive Committee, or NAESB. For those of you that have been involved in gas wholesale, formally, GISB.

MR. CUMMINGS: Good morning. I'm Bob Cummings. I'm the NERC Director of Projects Analysis and Data Services. I have worked for a number of years with the OSC and the Transmission Information System Working Group, and so I'm representing NERC this morning.

MR. HIRSCH: Hello, my name is Peter Hirsch, and I'm with EPRI in the Power Delivery and Markets Area. I'm representing Clark Gellings, who is the VP of Power Delivery and Markets. I'm not a Vice President, as my sign would indicate, but I am a Project Manager and heading up the CIM Market Extensions Working Group.

MR. van WELIE: Good morning, my name is Gordon van Welie. I'm with ISO New England.

MR. CANAVAN: Today, I'm speaking on behalf of both the ESC and the OASIS Standards Collaborative, which is the OSC.

First, I would like to thank the Commission for

the opportunity to speak today, and, second, to express our support of the Commission's efforts to move the industry forward on market standardization, while recognizing regional diversity, where appropriate.

The roots of the ESC can be traced back to the OASIS WET Group in the mid-1990s. The ESC is successor to the NERC Electronic Scheduling Task Force that was open to all industry participants after FERC issued the OASIS Phase II-A NOPR.

The OSC is a combination of the OASIS HOW group and the NERC Transaction Information Systems Working Group or TISWG. There are going to be a lot of acronyms here, so I apologize for that.

The OASIS HOW group authored and maintains the standards and communications protocol document for all versions of OASIS Phase I, and has existed since the mid-1990s.

The TSWIG was formed in March of 1997 to design and implement electronic tagging as an interfacing between market and reliability interests. Therefore, the OSC is responsible for the development of the specifications for the only two electric market systems used throughout North America.

The ESC and OSC are both North American industrywide collaboratives that are diverse in composition

and open in representation. They are comprised of merchant generators, marketers, load-serving entities and transmission-dependent utilities, transmission provides, independent system operators, regional transmission organizations, regional reliability organizations, and end-use customers.

Advisory members include software vendors, consultants, EEI, NERC, and other industry experts.

The ESC defined its segments and its government activities within a set of formally-adopted and published bylaws. The OSC, with a similar membership, focuses on technical implementation and coordinates closely with the ESC for its direction.

The ESC and OSC have a diverse mix of both reliability and market interests represented in our memberships, and adhere to the industry's mandate for open and inclusive organizations.

Both the ESC and OSC envision OASIS undergoing substantial changes under SMD. In general terms, this means moving from a physical transaction basis to a financial market-based system.

The current OASIS design was in support of FERC Order 888 and the use of physical transmission rights. This existing functionality will not be capable of supporting LMP and financial rights as proposed in the SMD NOPR.

You may also recall that the ESC filed a discussion of 31 potential business practices related to a physical transmission model in October of 2001. Upon review of the SMD, the ESC found that many of these business practices were no longer applicable under a financial model. The ESC is currently identifying potential business practices that will support SMD.

The OSC proposes redesigning the OASIS to primarily support the full bi-directional transfer of data between the various market participants and market operators, as well as reliability operators, where appropriate.

This may include aspects of market participant-to-market participant; market participant-to-market operator; market operator-to-market operator; market operator-to-reliability operator, and reliability operator-to-reliability operator communications standards.

This data would include, but not necessarily be limited to market participant and asset registration, capacity, energy, and ancillary resource offers, demand bids, virtual bids, bilateral transactions within or between ITPs, CRR auctions and secondary markets, day-ahead and real-time dispatch points and transaction interchange schedules, day-ahead and real-time market clearing prices, interface transfer capability; and congestion and outage

information; settlement information, and any additional information as defined by various industry groups.

The ESC and OSC are currently working on three OASIS Phase II SMD-related documents. Additionally, we are developing responses to the SMD NOPR.

The three documents are: One, the Market Functional Model; two, the Standard Business Practice Catalog; and, three, the Standards and Communications Protocol.

Our goal is to develop a seamless electronic market interface that accommodates regional diversity, as appropriate. The SMD-based Market Functional Model relates the requirements with SMD to OASIS functionality.

This model will include detailed diagrams and illustrations to indicate business logic and process flow. From this information, the Business Practice Catalog will identify areas where business practice standards may be required.

The ESC will coordinate the development of the SMD-based market functional model and the business practice catalog with the OSC. The OSC will use this information in concert with a set of foundation technologies, for example, secure HTTP, XML and SOAP or similar technologies to develop the Standards and Communication Protocol.

This protocol will detail the system design,

system architecture, data protocols for communications, and cross-references between the functional requirements specifications and the system design, specifying how each requirement is achieved.

We believe the development of a comprehensive set of business practices and the supporting standards and communications protocols, again, recognizing appropriate regional differences, is the best way to achieve the robust and flexible transfer of data between market participants, market operators, and reliability operators.

In summary, the ESC and OSC believe we continue to be valuable resources to the industry in support of NERC's land NAESB's efforts to develop reliability standards and business practice standards as they relate to OASIS Phase II and electronic scheduling in the SMD environment.

We are currently coordinating our efforts with NERC, NAESB, and EPRI and staying informed about other organizations to ensure the development of consistent business and communications standards that promote utilization of the latest technology and to avoid redundant efforts.

We have written letters to the Board of Trustees of NERC and NAESB, asking them how we can best serve them as technical resources to implement OASIS, Phase II. We do not envision ourselves as separate standard-setting

organizations, but rather consider ourselves technical resources to the industry.

In closing, we again offer our thanks to the Commission for the opportunity to speak today, and look forward to assisting FERC and the industry in any way we can, in designing, developing, and implementing effective and efficient systems to support the Commission's standard market design as it relates to OASIS Phase II. That concludes my presentation, and I will try to answer any questions you might have; thank you.

MS. SILVERSTEIN: Thank you very much. Mr. Buccigross?

MR. BUCCIGROSS: Thank you and good morning. I also want to thank the Commission for the opportunity to speak here, representing the North American Standards Board or NAESB.

One opening sentence, and then I'll get specifically to the questions, and that is, whatever organization or organizations develop SMD standards, I think the key is that the representation be open to all attendees, anyone with a stake in the market be able to participate from one end of the chain to the other.

That obviously includes software vendors, services companies, and other of what we call ancillary services in NAESB. With that, I'll go directly to the

questions that came up, and that is, number one, what issues does your organization address that affect wholesale market software?

The short answer is, a lot. NAESB, formerly GISB, has developed comprehensive business practices, data requirements, scheduling, file format standard and requirements, layouts, Internet communications standards, security standards, as well as common look-and-feel standards for wholesale gas pipeline, interstate natural gas pipeline, Web-EBBs.

These allow shippers to do business over the Internet, securely and reliably, either through a human-to-computer interface, or through a computer-to-computer interface.

I think it's important to note that these standards have been vetted by Sandia National Laboratories under a grant from the Department of Energy, which found that the standards were secure, were reliable, and did accomplish the business processes which they started out to do.

Sandia also made some recommendations as to how to strengthen the standards and how to strengthen the security, which we have undertaken, and the Version 1.6, which was published in August, incorporated those changes.

With the formation of the Wholesale Electric

Quadrant within NAESB, which actually had its first Board meeting last month in Hunt Valley, Maryland, and has an Executive Committee meeting this October 18th in Phoenix, I suspect that the Wholesale Electric Quadrant of NAESB will also start developing standards.

To the second question, within the industry, and, parenthetically, electric or software, who participates in your effort and by what process?

Again, the short answer is, anyone and everyone who wants to. NAESB is open and inclusive and is a balanced organization.

Any company or individual, for that matter, any entity, is able to participate, and with a couple of exceptions that I will note later, anyone is able to vote on proposed standards, whether a NAESB member or not. Let me say that again: At the Standards Development Subcommittee level, any individual or entity can participate and vote, whether a NAESB member or not.

We have representatives in the Wholesale Electric Quadrant from all segments of the industry, including software and services companies. In fact, in the Wholesale Gas Quadrant, the software and services segment is the largest of the five segments by a fairly wide margin.

The process -- and the participation in and how would take a lot more than ten minutes, and far more than

the morning. I don't think you want to hear the nuts and bolts of the process, but I will say that it works, and there is a handout in the back, detailing the process.

If you're having trouble sleeping some night, that will probably be good reading for you. But seriously, the process is what NAESB brings to the table -- the ability to include everyone within the industry: Wholesale electric, retail electric, wholesale gas, and by December, retail gas will be up and running.

Briefly the process. There are multiple segment balance levels of voting for the majority of votes, as I said, you don't even have to be a NAESB member. The only exceptions are the Executive Committee and Board members need to be NAESB members. There's an industry comment period, again, that anyone can participate in.

We have several reach out and interface programs with various standards organizations. John described the kind of beginnings of the ESC/OSC discussions with NAESB. Similar discussions and a letter of intent has been signed between NERC and NAESB.

We also have various members and subcommittees, chairmen and chairwomen that belong to DISA, Data Interchange Standards Association; FREDI, the First Regional EDI group, which the group that does the Mid-Atlantic states; the Internet engineering task force, the EBXML task force and the Utility Industry Group.

So while there are again a number of different three-letter acronyms, it's really the same body of talented

individuals that are sitting in these various places.

Right now in wholesale electric, NAESB has 170 corporate members. Within the organization as a whole are 400 plus members. And once retail gas, as I said, which I expect will be coming to fruition this month, by the latest December, joins, you can add probably another 50-plus members within NAESB in retail gas.

The next question is how does the organization's work become a standard? Well, it becomes a NAESB standard when it passes all these multiple levels of segment balanced voting procedures, goes out for industry comment. People write in comments on it. Those are posted for the world to see.

The Executive Committee then has to approve that proposed standard by what we call a super majority, which is basically two-thirds but in addition to the two-thirds requirement, there's a requirement that at least 40 percent of each segment approved the standard too. This is to prevent any tyranny of the majority problem. Four segments, if you will, cannot get together and roll the fifth segment.

That veto power is both a sword and a shield. Some people like it when they exercise it. Some people hate it when another segment exercises it. But the fact is, that allows balance and it allows fairness in the process.

Once it passes that two-thirds vote, it then goes

out to the membership at large and the entire NAESB

membership must ratify it by a two-thirds majority. It then

becomes a NAESB standard. NAESB is an accredited standards

development organization or SDO, accredited by ANSI,

American National Standards Institute. So in effect, at

that point, when it has passed the NAESB process, it has

the effect of an ANSI standard.

It becomes a FERC standard, if you will, an

enforceable standard on jurisdictional entities, when

adopted by the FERC. The Commission has historically taken

sets of NAESB standards incorporated by reference into a

NOPR, sent it out, subsequently issued an order

incorporating that version of the NAESB standards by

reference, and making them jurisdictional. That has

occurred with all of the NAESB standards to date.

We are now on our sixth version. That just was

released in August of this year. That has not yet come

under incorporation by reference of the FERC, but all of the

preceding versions, 500-plus standards when you include the

data sets, have been adopted.

Finally, question four, is there an overlap

between what NAESB does and what other organizations do, or

are there any gaps between what they do? The somewhat less

than decisive answer is yes, no, and I don't know. Are

there overlaps? Right now the universe isn't defined. If

there are overlaps, there's no reason to have two talented groups of people working on the same thing. The world is changing. There's room at the table for everyone. What the organization looks like and how they interact are things that are right now being negotiated between NAESB and NERC, will start to be negotiated between NAESB and the ESC/OSC and NERC regarding those roles, and there's always roles for other standards organizations like DISA, like ANSI, like the X-12 Subcommittee.

There's room at the table for everyone. The process is the key. All participants should be allowed to participate in the standards development process. No one should be left behind. NAESB through its process has proven it can do this, and it has. If there's overlap, as I've said, we'll fix it. If there are gaps, we'll plug them. We've been there before and we've done that.

The most important thing is the representation and the balanced voting, multiple levels of voting. Not to get too soupy, but it's America, and we vote.

Thank you. I'll be happy to take any questions.

MS. SILVERSTEIN: Thank you very much. Mr. Cummings?

MR. CUMMINGS: Good morning again. I'd like to talk this morning about NERC's ongoing commitment to the continued exchange if necessary of reliability operational

data and the evolving world of RTO formations and the SMD NOPR.

NERC has long shared FERC's vision of an electronic scheduling system that would be seamless across the market to enhance automation of interchange scheduling so that we would be able to schedule power and get it all done and have the information exchange that operating entities need.

To that end, we've been long facilitating the Electronic Scheduling Collaborative and the OASIS Standards Collaborative once we put our Transaction Information Systems Working Group together with the old HOW Working Group since late 2000.

Now where we were going with all of this, if you look at the work that the ESC and OSC have been doing, they've been already working towards an electronic scheduling system that would have encompassed all of the OASIS functionalities, uniforming scheduling system, operational data exchange, which is essentially the TAG information, as a byproduct of the schedules, not as the driver of them, and new cyber and technologies. In fact, we're moving in that direction with the advent of ETAG 1-7. Under that the TISWG/OSC uses the foundation technologies John talked about: HTTP Secure, HTTP XML and so forth, knowing that these would be the stepping stones to any sort

of electronic scheduling.

However, some of the things we have been assuming in terms of data exchange, particularly reliability data exchange, are being changed by the formation of the RTOs and how they're coming together, their business practices, scheduling practices and data exchange requirements.

We've been involved in data exchange in OASIS since 1995 and tagging since 1997. In fact NERC, at the behest of the Commission, facilitated the OASIS Work Group in parallel with EPRI's facilitation of the OASIS HOW Group.

We developed tagging in 1997 specifically, despite any other thoughts, specifically to exchange the necessary operational data between the market participants and the system operators so that they would know what power was supposed to flow where and when. This became a natural feed into the engine of the interchange distribution calculator for the administration of transmission loading relief procedures that were developed about the same time.

We coupled that, the tagging system, with the interchange distribution calculator to create a big picture for the operational entities.

We have a new transition to a reliability standards development process. It's described in great painstaking detail. As Jim said, if you are sleepless some night, you can read the reliability standards process

manual, which was approved by our board in June of 2002.

We've also applied for ANSI accreditation, and we're expecting that to be granted by the year's end. And of course, as you mentioned, we are in the middle of working on an MOU through an LOI on coordination with the NAESB.

We see an ongoing need, an absolute ongoing need for operational data exchange and planning data exchange under SMD. We need to do this between merchants and the system operators, between the operating entities. SMD will not eliminate the need to pass operational data back and forth. The large RTOs require different operational data than we did have in a TAG. But they still have to supply information to the rest of the interconnection.

Parallel flows on other systems due to generation dispatch with an RTO must be managed. And the iteration of LMP solutions between RTOs necessary to avoid overloads and seams and in other systems are absolutely essential.

We've been trying to figure out how the industry should accomplish these tasks, coming up with all of these information. We've talked about having to have a one-stop-shop for the marketplace to approach the market. And we've talked about the need for exchanging business data between RTOs in the ESC forum.

But the electrical intermeshing that we see in the RTOs requires that there's far more data than can be

handled in the current tagging system. Currently, point-to-point tags define a source and sink. Under the concept of an RTO with an LMP dispatch engine, that no longer is easy to see. So the information that we seem to need has to change.

So what is NERC doing in light of all of this? Right now, NERC is moving forward with a PKI cyber security project to provide a single certificate system for the industry. This is working with Department of Energy. We knew this was going to be necessary for any sort of electronic scheduling, and certainly will be necessary under SMD.

Under this, we've also maintained and expect to continue maintaining and administering the master registry of market participants. That will have to be modified and be directly incorporated with the PKI system.

We think that under all of these changes that NERC will be and stands ready to handle all of the operational and reliability standards. We know that NAESB is intending to handle the business practices standards, but we feel that the ESC and the OSC should be given the chance to serve both. Because I believe it's a good way of using their talents.

NERC is committed to continued exchange of all necessary operation and planning data for reliability, and

we'll seek ways to improve it. Just a couple of weeks ago we launched into a dissertation about potentially exchanging the dispatch solutions from the LMP engines of the RTOs. This would supplement the point-to-point information contained in TAGs for point-to-point transactions.

This data would enable inter-RTO LMP iterations so they could come up with a solution that wouldn't damage or overload any other part of the system. It would replace the reliability data from TAGs for large-area footprints of the RTOs, and it would enable assignment of RTO responsibilities in congestion management on third-party systems.

That, however, can't be done in a vacuum. There are -- we will need to interface with the business practices and the business information passed back and forth for administering CRRs, for example.

NERC will use all necessary technical resources available. Our own Transaction Information Systems Working Group, the combination of the TISWG and OSC, our Data Exchange Working Group, EPRI, with their assistance in CIM if deemed appropriate for the data exchanges, and we are going to be using for all of this our new reliability standards development process coordinated with NAESB and coordinated with the FERC.

I thank you very much for being able to talk here

today. Thanks.

MS. SILVERSTEIN: Thank you. Mr. Cummings, can you give me one minute on who's participants in NERC and what the process is for getting your results out please?

MR. CUMMINGS: In our current technical data developments, we have been working with the OSC, and the OSC isn't open to any one forum. Everyone has a chance to vote at that forum. Those ETAG 1-7, for instance, was then voted on by our Interchange Subcommittee and then passed on to our Operating Committee for implementation.

MS. SILVERSTEIN: And walk us through who's on those committees and is allowed to vote , please.

MR. CUMMINGS: We have sectors that are defined in there for IOUs and RTOs and -- I'm trying to remember all of the pieces, parts. But we have Canadian representatives and IPP representatives and market representatives, municipals, government, market groups and such.

MS. SILVERSTEIN: Let's try this another way. Who isn't allowed to vote?

MR. CUMMINGS: The vendors are not allowed to vote in the subcommittees of NERC at this time. In the OSC, the vendors are allowed to vote.

MS. SILVERSTEIN: Thank you very much. Mr. Hirsch?

MR. HIRSCH: Good morning. My name is Peter

Hirsch. I'm a project manager with EPRI in Palo Alto,

California and a facilitator of the EPRI-CIM Market

Extension CME Working Group.

I'm representing Clark Gellings, Power Delivery and Markets Vice President. Today I'm talking about EPRI's efforts to develop a common information model extensions for markets. I would like to thank the Commission for the opportunity to speak today.

EPRI shares FERC's vision for more efficient electricity industry, characterized by just and reasonable economic exchanges, seamless integration, and powerful abilities to supervise and ensure industry viability. Today we focus here on standards of information flows a precursor to efficient implementation of SMD.

EPRI has been involved in the industry standardization of communication protocols such as ICCP, and information exchange models such as common information model, CIM. CIM, and its application programming interface, generic information definition, GID, were developed over the past seven years through EPRI-sponsored and industry-sponsored work.

CIM-XML is being used in the electric power utility industry today to exchange network data. CIM is also being extended to work with the distribution and substation information applications.

In addition, EPRI facilitated the OASIS-HOW Working Group, and the OSC from their inception through 2000. EPRI has recently formed a new group, CIM For Market

Extension, CME, to rapidly develop communication standards to support the Commission's standard market design.

This Group consists of vendors, utilities, and ISOs, and is open to anyone in the industry.

The CME held a workshop in Dallas, September 12th and 13th, with about 60 attendees, to look at the scope and schedule of the CME efforts. The CME will extend the current Common Information Model standard to handle new processes and to support SMD applications.

SCME will focus on those process and functions that are well defined from the technical point of view. At a recent September 12th-13th meeting in Dallas, CME identified several key process that will develop initially.

These include day-ahead market processes, day-ahead market process, real-time market process, and congestion revenue rights process. The CME will also look at standardizing messages and communication interfaces for functions and applications needed to support standard market design.

The CME next meeting was scheduled for next Monday, October 7th in Minneapolis. The CME plans on coordinating its effort with those of the ESC, OSC, NERC, NAESB, Wholesale Energy Quadrant and with FERC to arrive at a consistent standard as quickly as possible.

For example, market information needs to be communicated in CIM messages format for SMD applications to access this information. Information definitions and format need to be consistent between markets and RTO-ISO applications to make this happen.

In closing, I'd like to than the Commission for the opportunity to speak today, and EPRI looks forward to assisting FERC and the industry in quickly designing, developing, and implementing effective information standards to support the FERC and Commission standard market design. Thank you.

MS. SILVERSTEIN: Thank you. Mr. van Welie?

MR. van WELIE: Good morning, and thank you for the opportunity to speak. I'm going to be working from a PowerPoint Presentation. I believe there are handouts at the back. Let me see if we can get this going.

(Pause.)

Does this have to be put up on the full screen here?

MS. SILVERSTEIN: Back there? I think that's it.

MR. van WELIE: I just need to get a full screen.

(Pause.)

I need help with the technology.

(Pause.)

Just put it up on a full screen for me.

Thank you, that's great.

So, the contents of the presentation material --
and I'll only be covering the first part here, which is
Panel I, which is Who Has a Role in Standard-Setting?

So, if we go through to the fourth slide, it's
entitled Panel I - Slide 1, and in trying to think about how
one needs to define the roles in terms of standard-setting,
my thought was to structure this and make it back to what
are the goals, firstly and secondly, and secondly, what
needs to be standardized?

It might be easier to follow also on the handout
that you have. I think the FERC has two admirable goals
here: The first is seamless wholesale power markets that
are efficient and reliable; the second is shorter software
implementation times and lower operating costs for wholesale
market systems.

I believe the first goal has largely ben
addressed by the standard market design. The second goal,
the reason we need standards at the market rule, business
process operating procedure and software level, and I'll get
to that in more detail in the next slide.

You might ask the question, why? And what I
would say to you is because the software will both follow

and enable the rules and business processes and operating procedures, because these determine the functional requirements to be implemented by the software.

In addition, you can't separate the software from the goal of achieving seamless markets. Standard market rules, operating procedures, and software standards are essential to achieving the first goal.

(Slide.)

MR. van WELIE: Moving to the next slide, it's not that clear on the screen, so I advise you to look at the handout. Really, in terms of looking at the software standardization, you're not going to extract much value in terms of software standardization because it's buried on the inside of the onion.

So, what I'd like to do is kind of take you through the layers of the onion. The very top level that I've got on this picture is the market design and policy, which is essentially being driven by the FERC standard market design.

The next layer down are the market rules and ISO operating procedures and business processes. Those, in turn, determine software functions that need to be supported within the marketplace.

Those software functions have to be supported by a software architecture comprising software components that

communicate with each other through some kind of data protocol.

You also need some kind of data format or network model or data model, which basically defines how things talk to each other within that system.

So, the point I'd make here is, here you can see essentially that the software systems are buried in the inside of the onion, and there are things on the outside that actually determine how the software functions will work.

And before you get to the point of being able to standardize software at a software level, you need to take a look at standardizing at the level above that.

The last element on the slide are the market interfaces, which are essentially the external view from the outside to market participants.

(Slide.)

MR. van WELIE: Moving to the next slide.

Moving to the next slide, what I've tried to do here is capture the universe of standard-setting, and who are the best people to actually define what standards? Once again, right at the top, you have the FERC setting the standard market design at a policy level.

Then you have the next layer down, and I have entitled that accountability and implementation, because,

obviously, the FERC has delegated certain responsibilities to NERC, and certain responsibilities to NAESB, and also will delegate certain responsibilities to the ISOs and RTOs, in order implement these wholesale markets.

If one looks at the column on the far left, NERC obviously has a role at a national level in terms of reliability standards, and those are, as we have heard earlier, dealt with through various working groups and task forces.

We move down to software tools in the reliability industry, and vendors to support those, and to the extent that standards are required there, I think those could be easily handled within NERC.

If we look at the next column across, which are the ISOs and RTOs, these are the people that have to make it work day-by-day. They are the ones that have to live with the results of making those standards work.

And, therefore, what I have done is to say that under that column are the things that these entities have to deal with, the wholesale market rules and operating procedures, and you could say that the wholesale market rules and operating procedures are the things that cause many to shift around within the marketplace.

And that, I think, needs to have a very tight leash on it with respect to linkage back to the FERC.

Obviously the software architecture and security standards within that box that I showed you in the previous page, is also a function of ISOs and RTOs.

They have to implement these systems, together with the vendors that supply them, and I think they need to be actively involved in developing and defining those standards.

The market interfaces, of course, I think that would be a very useful exercise for us to standardize, at least at some level, on how we present information to the external world. And then you have the ISO-RTO-related data interchange, which is essentially inter-ISO and within the ISO and RTO applications.

Remember those components I showed you on the last box, well, you need to have some standardized way of transferring information between them, if you are going to eventually open up that architecture to allow different vendors to play in that environment.

We are in the process of setting up some kind of formal interaction amongst the ISOs and RTOs, and I'll talk to that on the next page, but I think that what we have to be clear about here is that the ISOs and the RTOs will have to delegate certain of the standards work to task forces amongst themselves, and would have to contract with vendors in order to get the work done.

You will also note that I have said that the CIM market extension, which was referred to by the speaker from EPRI earlier on, probably best has a home -- not exclusively, but best has a home under the ISO and RTO column.

And then, of course, the ISO and RTO software vendors also play within that central column, because they are currently supplying solutions to those ISO and RTO entities today.

If we go to the far right-hand column, which is NAESB, they have been given a role in terms of participant business practices, the thought occurred to me that from an ISO-RTO perspective, we only see a slice of the marketplace.

We are predominantly involved with the spot market, day-ahead and real-time spot markets. There's a huge bilateral market out there. If we take a market like New England, for example, I think about 70 percent of the energy that gets traded, gets traded outside of the spot market, and I think that's the practice that will occur around the country, so I think there is a huge opportunity there, actually, to put some standards in place in terms of the bilateral markets.

Obviously, market participant business processes are very important. I think there's an overlap in the

transaction scheduling area. That's where I think groups like the OSC and ESC play an important role, but that's also an area where the ISOs and RTOs and those entities have to come to agreement, because the way you want to schedule a transaction has to be supported by the systems. It also has to be consistent with the market design and the operating procedures of the ISOs and RTOs.

Industry-related data interchange, I think is something that NAESB ought to be focusing on. Of course, I don't know much about the insides of what working groups have been established within NAESB, but I'm sure that as you define what tasks have to be performed, you will be setting up various working groups to deal with that.

And then, of course, there will be industry software vendors, which is probably a border group of ISO and RTO groups. Not all software vendors in the industry have an interest or have the expertise to play in the RTO and ISO space.

What I do here is take that previous chart and move from responsibilities to interaction, so, at the top level, once again, you've got FERC that is setting the policy direction, and what I'm proposing here is that FERC basically give that direction to three entities: NERC, ISOs and RTOs, and NAESB.

You will notice that there is a circular

interaction between both NERC, RTOs, and ISOs, and between the RTOs and ISOs and NAESB, and there is probably one between NAESB and NERC, but I didn't try to clutter the diagram up with drawing that one.

We, as the RTOs and ISOs, are currently engaged in discussions with both NAESB and NERC to formalize that interface and trying to put some formal interface in place, so that we can have a discussion on a structured basis in terms of standard-setting.

I see that NAESB performed the very important role, and it was mentioned by several of the previous speakers that any good standard needs to have broad involvement and discussion and review. And since we're talking here about national standards, you have to have a mechanism for getting that thorough review at a national level.

And I think that's what NAESB does bring to us, which is a window into that national standard-setting process.

The boxes below, I've kind of grouped them together to say that in each of the columns, you've got now, accountability and responsibility for both developing, reviewing, approving, and implementing standards under the direction of the FERC, obviously.

And then right at the bottom, you have the

development of various products by the software vendors, and obviously those will then follow the direction from the particular organization that's been delegated the accountability and authority by the FERC. So, that's as far as I wanted to go right now, and I'll turn it over to you for questions.

MS. SILVERSTEIN: Thank you. My first question for everyone is this, and my fellow panelists are going to be jumping in at any moment, I'm sure: Is it clear that -- the first question is, does everybody agree with these wonderful pictures that Gordon has laid out in terms of how this space is divided, everyone, except me, that you all know which slice of this space you're working on, and that there is not some overlap or competition for who does what here?

(No response.)

(Laughter.)

MR. van WELIE: Maybe I can make a comment there. You will hear it this afternoon, but I think what you'll hear from some of the software vendors this afternoon that they are being driven crazy by the fact that there are multiple people who are working on the same thing.

And so, you know, if you look at it from a vendor perspective, where do you put your resources? I'm sure the vendors, in most cases, are not being paid to do this, so

they are having to volunteer resources to do this, and I think we are doing two things: We are making the process inefficient and we're making it overly costly, I think, and burdensome for the software vendors.

So, that's from a vendor perspective.   I think the other thing, though, is that in order to get something done quickly at a national level, you do want to carve this up into defining responsibilities in certain areas.

MR. BUCCIGROSS: It's not clear to me. I don't necessarily disagree with the diagram, but where the line falls -- and it's not a bright line, not to exclude ESC or OSC, but let's just take pure reliability and pure commercial practices for a minute.

One could make a fairly cogent argument that most, if not all, commercial practices have some effect on reliability, however slight, and one could make the mirror-image argument that most reliability standards have some effect on the marketplace, the degree being the question.

Some say there's a five-percent overlap; some say there's a 50-percent overlap. I don't know the answer, but it will depend clearly on what the standard says, how the groups interact. I think it's clear -- and Gordon's diagram showed that up -- that whatever the split -- and I would be fibbing to you if I said there's not some measure of competition among the players here for a slice, but I don't

think that's going to be damaging; I think that's healthy.

But wherever that split and however that split occurs, we need to have the criss-cross of both the working groups and the executive level committees and the standard-setting bodies such that when a practice or a reliability standard of an ISO-RTO practice falls in that gray area, that all the participants can interact with each other to get a standard that functions both in the reliability and commercial marketplaces.

MR. CUMMINGS: I have to agree with Jim that I think that there will be those gray areas. For instance, we're purporting to take care of reliability needs by exchanging the LMP dispatch between the RTOs.

Well, from a pure reliability standpoint, I could stand just using net schedules for the zonal areas. But if you want to still and at the same time, do an iterative procedure where you can actually make the two markets work together, then you have to go the full boat to exchanging the LMP solutions.

But that's something that we're both going to have to work on together. Now, how do you do that? What is the best way to set the standard for that particular thing?

It may be a CIM extension that's transported on an XML messaging system, defined by the OSC that's then agreed to by NERC and NAESB. That may be just one example

of how things could happen.

MR. O'NEILL: Do you exchange the LMP solutions,
or do you exchange more information than just the solution?

MR. CUMMINGS: Well, you exchange a whole lot
more than just the solution, but from a reliability
standpoint, like I said, I need to have the generator
dispatch solution.

MR. McNEILL: Okay, but the iterative exchange
would be more than just the LMP?

MR. CUMMINGS: Oh, yes, there's a lot more, but
from a reliability standpoint, that's the egg; the rest is
the rest of the plate.

MS. SILVERSTEIN: Mr. Hirsch, do you want to get
in on this?

MR. HIRSCH: We've certainly been discussing this
in the CME group. I know the OSC has been sending e-mails
out on this issue. We stand to work together with the OSC
and the ESC and NAESB to work out where there are overlaps.

Clearly, when, for example, data coming in from -
- we've talked about reliability and market information, but
also market information and applications and functions with
an RTO, there's overlap there, as well.

And we stand to work with the groups to make sure
that there's a common effort to standardize that

information. But our job in EPRI is to work as quickly as

possible to get standards out dealing with these issues, and

at the same time, cooperating fully with these other groups.

I was on the OSC and ESC since their inception,

and I have been working with NERC very closely on many

areas, from security to many other areas. EPRI has worked

very close in hand with NERC. We hope to work closely with

NAESB, so we think that we can cooperate and we can work

together to solve the problem.

MS. SILVERSTEIN: I'm hearing a lot about

cooperating, but mostly what we've seen in the past year has

been jockeying for turf, and I haven't yet -- we're hearing

about folks signing MOUs or threatening to do MOUs, but I

still hear each of you talking about developing standards,

using language that sound as though you're all trying to do

pretty close to the same thing.

And I haven't yet heard anyone say here's how

we're going to draw the lines. Maybe this gets into the

process discussion at the next phase, but mostly what I'm

hearing is -- and feel free to explain that I'm wrong, and

I'm listening to that, but mostly what I'm hearing is that

you all are trying to do different pieces of the same thing,

and I'm not hearing a lot of differentiation or a clear

vision of this is what I do and this only what I do, and

this is how I make sure that what I do flanges up with what

they do.

MR. HIRSCH: Well, let me just try to answer
that. I mean, we're still all grappling with what SMD is
and what it means in terms of data and process and business
practices.

I think that as we all go through and define
those processes and data requirements, and get down to more
details, then it will be much easier to define the actual
line. And we will work together on doing that.

But I agree that at this point, we're at a fairly
high level, and it's sometimes hard to distinguish it.

MS. SILVERSTEIN: Are we now at the sort of
Kabuki stage setting positioning of here's the turf that I
think I can span, and people are going to start figuring out
their roles more cleanly as we go along?

MR. HIRSCH: I think we kind of -- we've gotten
some guidance from FERC. We certainly would welcome any
additional guidance from FERC, but from what we understand,
we think we know what we're supposed to do, what other
groups are supposed to do, and we're willing to do it at
that level.

If FERC decides something differently, we would
gladly support that effort, as well.

MS. SILVERSTEIN: Mr. Canavan, you've been
remarkably restrained so far.

MR. CANAVAN: I don't know if this would clarify anything or not for you, but it's my understanding that Peter and Alan Phelps, who is the Chair of the OSC, have had a conversation within the last couple of days, and at a very high level, concluded, Peter, I need you to tell me if this is right or wrong or not, because I think this could set some direction going forward for both groups, but at a very high level, the ESC-OSC would be responsible for market-type data, and that the EPRI would be responsible for more operational-type data.

Now, obviously there is going to be some overlaps, and those overlaps have to be defined and split out, but I guess that's my preliminary understanding, and, you know, at a 20,000-foot level, of how we would proceed.

And I think we do have plans for Alan and myself and for Peter to get together and kind of start carving up the turkey, so to speak, on who does what. And we're not so sure if -- I agree with Gordon's comment that there is a lot of concern in the industry right now about too many people doing too many things, and there is a lot of redundant effort, so any guidance that we can get in that area, I think would be very beneficial.

MR. O'NEILL: Can I try to clarify? When you say "market-type data," there are SMD markets which are very specifically described in the SMD NOPR, and can -- are very

amenable to data standards.

And then there's the forward transactions, if you will, the off-SMD transactions that aren't very well described, and purposefully so, so there's lots of flexibility.

When you say "market-type," what are you referring to? I think that they are quite different in terms of how they should be approached.

MR. CANAVAN: That's a good question, and I think that needs definition. I guess that's the point I'm trying to make, is --

MR. O'NEILL: And the way I see Gordon laying this out is that the bilateral wholesale transactions that are, again, purposefully not well defined, would be the province of NAESB, and the information that the RTOs and the ISOs need to run the SMD markets would be in the RTO-ISO box or whatever it is.

And, of course, there would be interactions with all the groups, but, you know, there's two different places where market-type information is, and I'd like, if you would, for you folks to address, if you agree, if you need clarification or what?

MR. CANAVAN: If I may, we did include bilaterals between -- within or between ITPs as a part of the redefinition of OASIS, so, yes, that is definitely an area

that has to be looked at. And, again, does that fit in the

definition of market as in the purview of ESC-OSC? I don't

know the answer to that question right now.

          MR. O'NEILL: It's the market as it fits into one

box, versus the -- I mean, there are two boxes that market

transactions fit into.

          MS. SILVERSTEIN: Gordon?

          MR. van WELIE: Let me just say two things: The

first is, in the wholesale what are called the spot markets,

the SMD arena, things are starting to mature quite rapidly,

largely because of the big push that you have given it.

          And, you know, there are players like PJM and

others, New York, ourselves, that have actually got a pretty

good understanding in that area. And I think there is an

area where we can move quite quickly.

          The extent to which standards are required in

what I call the bilateral markets outside of SMD and forward

of SMD, is something which still needs to be figured out,

but I think with everything that we've seen over the past

year or two, it strikes me that there is at least a

requirement for business practice standards out there,

people making sure that they are financially protected, for

example. There's one good example.

          The other point I wanted to make is that the way

I see this is that if one approaches standard-setting -- and

I have been involved in standard-setting in different arenas, it normally is a pretty long and tedious process.

And there's two ways of approaching this: There's one that I call the blank sheet of paper approach, which is, you get a bunch of smart people in a room and you start drawing on the white board, and you try to develop the standard from the ground up. And I would submit that that's going to be a very long process.

The other approach, really, is to collect up the pieces that already exist in corners around the industry. And there's a lot of work that's been done, a lot of good thinking that's been done already.

The problem is, we can't have different entities fighting over who is responsible for which piece of the jigsaw puzzle. So you've actually got to carve them out and say, you know, you guys build the sky, we'll build the mountains, and you build the lake, and that way we'll get the picture at a national level.

And I think that, to me, is one of the things that the FERC can really help with in terms of setting some direction.

MR. ROSENBERG: Let me see if I can understand the point here: Even with the spot markets, isn't there a need for a common standard between customers communicating with RTOs?

MR. van WELIE: Yes, definitely. There is an interface issue, which I didn't deal with explicitly, which is, let's assume for a moment that the ISOs and RTOs have got the expertise working together with their software vendors to develop standards in the realm of SMD.

But that's a market that there's a set of systems and so forth there that have to interact with the marketplace. Other ISOs or ITPs or RTOs as well as entities in the marketplace. So that's on the one slide I had this line which said Market Interfaces.

The ISOs and RTOs cannot unilaterally go off and define those market interfaces. They have to work together with, let's say NAESB, because it makes no sense for NAESB to be developing one data standard and the ISOs and RTOs to be developing another.

But to start with, you've actually kind of draw the lines and say you guys focus on this and you focus on that and then at the interface points, you have to have a discussion, because otherwise we will end up with things that don't talk to each other.

MS. SILVERSTEIN: Just to beat this topic to death, I think that is the point of our meeting here today is to get to an agreement by 3:30 this afternoon as to some big picture level of who's going to do what and how are you going to coordinate the interfaces between that and who's doing which pieces of standards and who supports it and who calls the shots, and how soon can we get to that other end.

MR. VAN WELIE: And I think the starting point is to broadly define the responsibilities. Because until you've broadly defined the responsibilities, people are

still going to be fighting over turf.

Once you've broadly defined the responsibilities, then NERC, NAESB and the ITOs and ISOs can kind of work out the detailed mechanisms at a more detailed level decide what they're going to work on.

MR. ROSENBERG: I worry that if we have many different players doing this, we might need some overarching body that works with them all, arbitrates disputes and other things like that. And I would prefer it not to be the Commission.

MR. VAN WELIE: I don't think you're going to get away from it.

MR. ROSENBERG: I know we won't get away from it totally, but the more the industry can work out themselves, the better off the industry is.

MR. VAN WELIE: One of the points that I'll make this afternoon is I think that project management of this effort is key. So maybe we can talk about that later on.

MR. BUCCIGROSS: I think part of what you're seeing is just an honesty on the inability to draw the bright lines. I think from a broad point of view, there's general agreement. From a specific, does this transaction fall on this side of the line or that side of the line, frankly, we don't know. And I think until they get developed, it will be unclear.

And I'll go back to Gordon's diagram there with the working groups working with each other. You don't want that poor guy in the middle to have to support three distinct and separate systems which may be incompatible with each other.

So wherever and whomever it falls on, I think the fact that there has to be that interaction, which I'll be honest with you, I cannot define exactly how it's going to happen, but I can say it will happen, at least from NAESB's point of view.

MR. VAN WELIE: Could I perhaps offer one comment on the bright line? One of the bright lines at least that's in my mind is in the area of market rules and operating procedures.

I mentioned earlier on that this has economic consequences. And I think it would be unlikely that you could really have an industry body comprised of different sectors trying to decide on a standard in this area, because inevitably, it's going to end up back on the FERC's desk. And that's really what the ISOs and the FERC have to deal with every day in terms of running markets. So I think the best shot we've got is for FERC and the ISOs and RTOs to figure out standardization in that area. And that's something that to me is a pretty bright line.

MS. SILVERSTEIN: So is your bright line that

where there's significant equities involved that that needs
to be a public policy decision by FERC implemented by the
ISOs and RTOs?

MR. VAN WELIE: Yes.

MS. SILVERSTEIN: We're having a lot of fun up
here, but is there anyone from the audience who has a
burning question or point that they'd like to share? Yes,
sir? Come on up.

MR. O'NEILL: While he's getting up there, I
think that there -- let me put a strawman bright line on the
table. That NAESB and the other groups develop these
bilateral transaction standards and then one obvious
interface is that when those bilateral transactions have to
be scheduled into the ISO or the RTO, there needs to be a
set of standards by which those are scheduled into the SMD-
type markets.

I don't see that as terribly difficult, but
that's one of the places where the bilaterals interact or
interface with the SMD markets. I don't envision that as a
terribly difficult interface to standardize. The other
interface is the inter-ISO-RTO interface, which I believe is
much more complicated and probably does need a lot of
coordination.

MR. VAN WELIE: On your first point, I think that
it's probably technically not terribly difficult, but

because you've got momentum behind different approaches in different parts of the country, from a process point of view it's going to be quite complicated to do this.

So it would be useful I think if the ISOs and RTOs got on one page with respect to the impact of this transaction scheduling on the market design, and I think if market participants through NAESB can actually at least boil it down to one or two approaches from an interface point of view, we would actually get some forward movement on this discussion.

MR. HANSEN: I would like to offer a starting point.

MS. SILVERSTEIN: Tell us who you are.

MR. HANSEN: My name is Jim Hansen. I'm with Seattle City Light. I flew out here last night all the way from Seattle after flying back from Miami at the ESC meeting, so a bit of jet lag.

Anyway, I'd like to offer a starting point based on what the goal of this meeting is. One of the things that I've heard from FERC before is that they'd like to minimize the number of people reporting to them and setting standards. And I think the minimum number of people that could report to FERC on this are NAESB for the business side of it and the reliability organization, NERC. I think that everybody else should report to them.

I think the ITPs have both reliability and business interests that they need to work through the standards-setting boards for. So I think there should just be the two organizations and there should be groups under them.

MS. SILVERSTEIN: Thank you. I had another question and it got away. Anyone else? Mr. Sasson.

MR. SASSON: Myer Sasson from Con Edison in New York. At the end of the last conference, as we were talking about the software systems and how large they needed to be and so forth, I made a comment that another way of looking at this was for ISOs, RTOs or ITPs -- we had no ITPs then -- to iterate on the LMP solutions both for day ahead and real time, and therefore get solutions that encompass multiple ITPs together and have like one seamless market without having one seamless ITP with everything inside.

So I was very pleased today to see Mr. Cummings and Dick O'Neill discuss this. And I'd like to offer if possible that the current SMD NOPR does not have this as one of the requirements under SMD that multiple joining, neighboring ITPs would be able -- should be able to arrive at day ahead and real time solutions that become like larger ITPs.

And I'd like to see if that can be added as one of the objectives in the SMD NOPR. And I offer that for

discussion. Thank you.

MS. SILVERSTEIN: Thank you. Mr. van Welie, is it necessary that that be put in a NOPR, or is it only necessary that ISOs and RTOs and ITPs act in a coordinated fashion without being told to?

MR. VAN WELIE: I think my initial gut reaction to that, without understanding necessarily all the details of what you have in mind, is that that sounds to me like a further enhancement of SMD in the future, rather than something we need to focus on right now.

So it will be a huge achievement just to get done what you've described in the NOPR, create a baseline set of standards, and then by all means, let's start evolving what we're trying to do from that point forward. And at that point, probably the right place to put it in is back at the RTOs and ISOs to see whether we can actually evolve and improve on what we've got.

MS. SILVERSTEIN: Thank you. I will observe that the entire goal is Standard Market Design, which is to have consistent market rules, and of this effort, which is to have consistent software underlying the operation of consistent market rules, should we hope to achieve the very thing that you suggest without the necessity of putting it in writing. But one can dream.

Mr. Dworzak, it's been a while.

          MR. DWORZAK: Good morning, Alison, and good

morning everyone. I'm Dave Dworzak, Edison Electric

Institute. I have a lot of questions, but I'll try to

capture it in two. I think have a specific question for Jim

Buccigross representing NAESB, and then I have a question

for the panel.

          And I'll give a little context for the question.

What I've heard so far this morning in the discussion --

again, we're dealing with it seems like primordial what and

how kinds of issues, and what I've heard so far this morning

is an awful lot of "how" discussion. I haven't heard a lot

of "what" discussion.

          And let me try to explain that, and then I'll try

to tee the question up as I struggle with this. As far as I

can tell, data doesn't care whether it's electricity data,

gas data, bilateral contract data, operating real time data,

gasflow data. It's data.

          Now my understanding is that NAESB over the last

several years has developed a set of standards that govern

the handling, care, feeding and management of data in the

wholesale natural gas world. So my first question is for

Jim Buccigross. Do these standards work? Do they eliminate

for the software vendors various clouds of uncertainty and

doubt? Do they support the markets? Are the market

participants happy with those standards? Do they work?

MR. BUCCIGROSS: Yes and yes. GISB has -- NAESB
-- has developed what we call our EDM standards, Electronic
Delivery Mechanism standards, which are utilized obviously
in wholesale gas transactions and scheduling as well as
purchase as sales confirming the points, flows, and down to
the physical flows.

They're also used to transact business in several
states where the retail marketplace has been deregulated.
Some by rule of the PSC: Pennsylvania, New York. Other
places where market participants have chosen them because
they worked, because they're reliable, because they're
secure.

There are multiple competitive vendors, some of
which are in this room, which offer solutions from a
software solution to service bureau solutions. Dave said it
right. Data is data. I'll say it a different way where
payload neutral, or payload agnostic. What data elements
exist in the transaction does not matter. In fact, the GISB
EDM standards are in use by the automotive industry group,
the AIAG, Automotive Industry Action Group, to transmit auto
parts orders and bills of lading and shipping and invoices.
They're in use in benefits transactions, insurance
transactions, HIPPA -- Health Insurance Portability
Accountability Act.

So they work. And I've said this before, but let

me say it again because I think it's important. When there were viewpoints of cyber terrorism issues and when the PCCIP -- President's Commission on Critical Infrastructure Protection and now HSA now looks at what transactions go over the Internet and how secure are they, the GISB standards for transacting data -- not the data, not the format, which can be independent -- were looked at by Sandia National Laboratories, found to be secure, reliable, private, authentic, integrity, nonrepudiation, all those paying principles.

Some changes were suggested. Those changes have been implemented.

MR. DWORZAK: My second question is: If the platform on which all of these various databases and market platforms and grid operations platforms operates on one set of standards, that would seem to suggest to me that you have freed up software vendors, market participants, market operators grid operators to develop whatever databases and whatever software programs might be necessary to in fact implement the rules and policies which the Commission articulates in the future with regard to standard market design.

So therefore my question is for the panel: To the extent we establish some boundaries, a bright line is the phrase that's been used here this morning, to the extent

the Commission or various market participants establish

boundaries between say, for examples, ITPs or between

various regions of the country or between bilateral and day

ahead and real time platforms, if we begin to look at

setting different data standards based on different ways of

slicing the pie, do we risk establishing yet another set of

seams that are going to possibly impede implementation of

the Commission's policy goal?

          MR. VAN WELIE: Can I? One comment I want to

make was I don't see it as black and white as data is just

data. I think in terms of electronic data interchange

standards from an industry perspective, to the extent that

in the gas industry you've got something that works in terms

of moving files around and so forth across the Internet, I'd

be happy to take that.

          I don't think that's the issue I was getting at.

That to me is an area that NAESB should work on and has got

expertise in. What I would look at in terms of data,

though, is that I think you would agree with me that

physically, a gas system is a very different animal from an

electrical power network.

          And so if you want a security constrained unit

commitment program in one ISO or RTO to communicate with

another security constrained unit commitment program in a

different ISO and RTO and exchange data, you need to have

some common understanding of what the power system data

model looks like. And you need to then be able to

encapsulate that data in a certain construct so that there's

a common understanding between those two applications

          To me, that is something that the ISOs and the

RTOs understand very well, because they've had to make it

work and they live with it every day. I would suggest that,

coming from a gas industry perspective, you have very

limited expertise in that area.

          Now when it comes to taking the information out

of that security constrained unit commitment program and

making it available to an external market participant, then

I'm happy to actually use whatever is a convenient and best

supported data standard that's out there. And I think

that's where there's an illustration of how we can actually

work together.

          MR. BUCCIGROSS: Let me say one thing. I agree

with you. It will not be gas people determining the data

requirements for ISOs and RTOs. Trust me. As smart as I

like to think I am sometimes, I don't know what the data

requirements are, nor would it be the gas people.

          So let me be specific on that. It will be the

industry experts. What forum they sit in, ESC/OSC, NERC or

NAESB, doesn't matter. I do agree, however, that the --

just take the data requirements and data format out of it,

and get back to Dave's first question, which is just literally Internet transmission protocol -- the packaging of that and the exchanging.

I can say, proudly so, with Sandia National Laboratories at least virtually standing behind me, that the GISB electronic delivery mechanism standards are world class.

MR. VAN WELIE: I just wanted to follow up. I think if we go back to the goal, the Commission's goal, which is to lower the operating costs of wholesale electricity markets, to me the big bang for the buck comes from actually getting standards in place within those RTOs and the ISOs.

I think what Jim is talking to is important and we should try and leverage everything that exists out there already. We shouldn't try and reinvent the wheel in that area.

So I think there can be rapid movement in that area. Lots of industries have already defined how to share data cross the Internet. But when it comes to how the software works and the architecture and the data formats within RTOs and ISOs, I think there's a lot of work to be done there.

MS. SILVERSTEIN: I think you'll see a lot of folks on behalf of not reinventing the wheel. But I want to

ask very quickly, did anybody want to take the bait that Dave threw down about will you create another set of seams?

I think I can say on behalf of the Commission that it is our goal to avoid that, and it is our purpose here to assure that you all improve what's inside the boxes rather than use the boxes to create seams that don't help anybody. Is there any opposition to that viewpoint?

(No response.)

MS. SILVERSTEIN: We're going to ask this gentleman who has been waiting patiently. But I also want to -- we have not heard from any software vendors, and I want to ask if any of you sitting in the audience have a strong view that you want to share to close out this portion of our program. Yes sir?

MR. O'NEILL: Just for a second. I think that Gordon and Jim were agreeing that basically that the standards for moving data around the Internet are world class, and Gordon will defer to NAESB and that the details of how you run an electric system is something that the ISOs now probably have the expertise so that you would move that information around, but they would then decide exactly how that information is formatted.

MR. BROOKS: Hi. I'm Dick Brooks, and I represent SISTRANS. We are a software vendor. We are GISB members or NAESB members -- sorry, members of the UIG. And

I think it's important. I just spent most of this week at Dynegy Corporation helping them implement the latest round of NAESB standards or GISB 1.5.

I think it's important to look at this problem from the standpoint of the merchant. It's clear to me that the merchant is the one who ultimately is responsible for implementing whatever gets decided ultimately in this room and in other places.

And I guess the point I want to make regarding that is, nothing operates in a vacuum in that case. The wholesale electric standards that are created, whether they're NERC or EPRI or wherever, ultimately will have an impact on the retail side. So what we really need here is an organization that is capable of crossing all the various stovepipes or boundaries to resolve it to a single set of standards.

MS. SILVERSTEIN: Thank you very much. Going, going. Okay. We'll take this gentleman. Mr. Hirsch, do you want to talk while he's coming on up? Did you have a comment?

MR. HIRSCH: I just had a comment on earlier comments that were made. I agree with almost everything everybody said, but I want to point out that within the electric power industry there are different communication standards already in place, like ICCP and Internet

communication. And it may be because of reliability and speed and other issues, there may be needs for different communication standards, not just one.

And we shouldn't just jump to say there's one standard and it fits everything. So one of the things that the EPRI CME group would look at is what's available, and we would look at what NAESB has, what NERC has done already, and what's already in the industry and come up with what we think are the best communication standards as well as the best data standards. And they may be different for different sets of data.

MR. O'NEILL: From what I'm gathering here is that you're saying that for reliability purposes we may need to move the information a lot faster than for let's say bilateral trading? And so you would have different standards?

MR. HIRSCH: All I can say is we haven't made any decisions yet, but that's likely to be a case.

MR. VAN WELIE: Dick, maybe I can just shed a different bit of light on that. ICCP, I would have no -- I don't think there's any point in abandoning ICCP if it's a working standard that's been out there in the electricity industry forever. By definition, it's intercontrol center communication protocol.

What was I really referring to, though, is when

we start talking about scheduling transactions or getting

some kind of billing data across the Internet, I don't have

any objection to using a standard that already exists within

the GISB area.

MR. CUMMINGS: I agree. There is one aspect that is very important under this, the real-time data, the generation and actual outputs--the line flows, the voltages, the real-time operational data--currently does travel on ICP, and in the Eastern Interconnection a lot of it goes over the NERCnet Frame Relay System. So those things I don't think need to be abandoned in any way, shape or form. I think they will all probably need to be augmented by very rapid transmittal of other information, because, as fast as the market is moving these days, just the solution of the LMP engines and how they might interact and impact the reliability of the system, those will have to move very rapidly as well.

So we probably can work out some way of doing that, as well, too.

PRESIDING JUDGE: Before our next commenters, there werre a whole flurry of hands in that back corner of the room on those who felt strongly. This business of workshops, like industry, goes to the swift. So throw your hands in the air if you've really got to talk.

Okay. You, sir, why don't you come on up and stand behind her. You, and after these four people speak we will call an end to this panel.

Yes, sir.

MR. MONACO: Hi, I'm Kevin Monaco from Excelgi

Corporation. We are a developer of software. Within the FERC domain we provide the systems behind American Electric Power and their power tradein and TSU. So we represent some fairly significant--I should not say--we serve some fairly significant market participants.

We also have the unique perspective of also providing software behind the Italian Power Exchange. I would actually support what Gordon had mentioned earlier. Ultimately the asset owners have a significant vested interested in making sure the systems work and having the expertise to do so.

On the other hand, we have found it very helpful if there is consensus that is built through the industry like NAESB has done in the past. We have been a long-time supporter of open standards developed by NAESB in the predecessor groups like KUBRA and GSBE itself, but where the rubber hits the road is the folks who have to operate the system day in and day out.

What I would suggest, though, is that FERC really does need to play a stronger role in ensuring that the interests of the industry and the asset holders are balanced. What we found in the past in retail was there was a rapid fragmentation of standards which drove up costs tremendously for everybody concerned because ultimately there was 50 -- actually, it was more like 300 standards

implemented, one for each utility.

So, as a software vendor, we're somewhat indifferent, because ultimately the customer pays for that, but if you wish to improve the barriers to entry or reduce the barriers to entry, I would ultimately suggest to the FERC that they do adjudicate the equity interests of the industry and the asset owners and promote architectural principles that embrace the latest in technology to reduce overall costs, because some technology paths do dictate higher costs of proprietary software than others.

We actually do advocate use of stuff like XML, primarily because it's so widely adopted, the actual technology costs of implementing it is so much cheaper, so thank you.

MS. SILVERSTEIN: Thank you. As you know, FERC only does wholesale, to the relief of many states, but I can assure you that --

(Laughter.)

MS. SILVERSTEIN: But I can assure you that it is Chairman Wood's experience with retail market rules and the fragmentation of business practices that led us to push all of the major Texas utilities, including your client, to become early joiners of the Cooper Process, and that is what led ERCOT to have the system that it has today.

MR. WINECO: Ultimately, I do recognize that FERC

does have its role on the wholesale side, but it ultimately touches upon all the market participants, and the cost of entry gets reflected in their systems.

MS. SILVERSTEIN: Well, maybe market participants will take what they learn on the wholesale process and the value of driving things towards standard operating procedures and take that into retail when they start competing in other states. Thank you very much. Yes, ma'am?

MS. YOKES: I'm Ms. Regina Yokes and I'm the CEO of Elequant, which is a software vendor that was recently incorporated in the U.S. in the beginning of this year. We basically develop software for electrical utilities and software for real-time operations and EMS type of software and other activities around the electrical utilities.

Regarding the marketplace, we really agree with what Gordon said that it's a different animal, the electrical utility, the electrical industry and the electrical model -- very, very different than the gas one. And you know that there are a lot of constraints regarding flows, regarding your balances and all of this stuff.

So what we think here is that any standard that becomes a part of the information of the independent system operators into their function of rectifying a strategy once you have to go the final clearance regarding the

restrictions of the operations and the reliability and
security of your electrical grid at the moment, you should
be flexible in allowing for improvements and innovation that
is taking place right now, and that it should be looked at
in the possibility of generating new parameters that might
be incorporated into ICCP like new metrics on how close you
are to voltage collapse and all of these things that we
think now is available through part of our innovative
development in our company with a new low-flow, which is not
iterative, is not Newton-Rhapson.

And it can do a lot of calculation, even going
through voltage collapse. So that allows for improvement in
what is the basic essence of estimation and values that are
reliable to transmit through these infrastructures.

So, I don't value less, the structure in which we
flow the content of this information for electrical markets,
but what is important to have high quality of content that
is going through that. And so I think that reliability of
the data that is obtain now at the dispatching and at the
control centers from your -- from your RTOs or from
measurements or whatever you are bringing now, it has to
look a little bit on this new technologies that are
available now, that are not any standard in the industry,
that we're starting to deploy in the U.S., that have been
working in Europe and a just make a point, just look at it.

There are new things and we think that there is an opportunity there to be flexible and incorporate new things.

MR. O'NEILL: If you're not using Newton-Rhapson, what convergence routines are you using?

MS. YOKES: We are using a non-iterative procedure right now.

MR. O'NEILL: A what?

MS. YOKES: A non-iterative procedure like Newton-Rhapson. It's not an approximation, it's an analytical solution to the low-flow equations.

MS. SILVERSTEIN: Thank you very much. It's a good point. Next?

MR. MUELLER: My name is Nelson Mueller. I'm with Open Access Technology or OATI which is based in Minneapolis. We have been heavily involved on E-TAG systems, and we have also had some CIM project in the past as well.

One thing that I would like to make sure that it's taken into account in any decision that is made, is the effort that was put up by the OSC, which is a de facto standard on E-TAG for communication, which is open distributed and it's used by market participants, ISOs throughout the industry, right now across North America.

It shouldn't be thrown away. I believe it

shouldn't be throw away; it should be given great thought about the use of that technology and architecture again.

MS. SILVERSTEIN: Thank you. Yes, sir?

MR. AUSTRIA: Hi, my name is Ricardo Austria. I'm with Power Technologies. We're a consulting and software firm in the transmission area.

I had a concern and a comment, I guess, to make, a general comment, but I would use two of the items that were mentioned in the presentations to state that comment. As a vendor, I'd like to note that there is a slide that Gordon showed about the development of standards where the vendors are at the bottom of that development process, which seems to imply that as vendors, you know, we receive whatever you develop and we'll implement it, and we're smart enough to do it.

But that has impacts on what you get as a product down the line, and if we're not involved in that process, it makes it much more difficult for us to provide the product that you're looking for.

And the other point that I heard today is in the process of making the standards, vendors are not allowed to vote. I think our input is important to this process. Thank you.

MR. BUCCIGROSS: If I may for just ten seconds, vendors are involved from the top within NAESB and within

GISB. In my real job, I work for a vendor.

MR. van WELIE: Could I make a comment there as well? I don't want the vendors to think that we regard you as second-class citizens; you're not. But on a two-dimensional piece of paper, if I put you at the top, I'd have to put FERC at the bottom, and I didn't think that was a good idea.

(Laughter.)

MS. SILVERSTEIN: On that politically correct note, we'll thank you all so much for participating, and let's take two minutes for these folks to -- Mr. Cummings, we've got to wrap this up -- let's thank you all for joining us for this panel, and bring on the next set of contestants, please.

(Pause.)

Hello? I need everybody who is a panelist or who has asked a question to give your business cards to our Court Reporter, please. So if you are one of the helpful people asking questions before, please give her a business card; if you're one of our wonderful panelists, please give her a business card; if you plan to be a panelist, please give her your business card. We're not going to ask if you plan to ask a question.

(Pause.)

Can you close the door in the back, please?

(Pause.)

The purpose of our second panel is to talk not so much about content but about process, and I know that the electric industry, as we remind each other often, has many of the smartest people in the world, and the people who work with us are the smartest people in the world.

But it's often occasionally the case that people outside the electric industry do good things that we can learn from. And that is our goal today.

With us, we have folks that we invited from other industries that have gone through -- or other countries, thank you -- that have gone through a similar process of refining and honing in on what data and software are needed and how to get to some sort of standards that involved a wide range of players with a diversity of interests.

And so we've brought in folks who are experts on a couple of other processes and industries and efforts to ask them what worked, what didn't work, how did you get there, and what can we in this endeavor, learn from their successes, challenges, and processes.

I will ask each of you to go down the row and tell us who you are, what organization you're with, and what topic or process you're going to talk about, starting with Mr. Buccigross, and then we'll go back down and have each of them, after the introductions, talk about what you're going

to talk about.

MR. BUCCIGROSS: Jim Buccigross, again. It should be no surprise that what I'll be talking about is the process for the North American Energy Standards Board's development of standards.

MS. SILVERSTEIN: But, specifically, you're also going to talk about gas standards.

MR. BUCCIGROSS: I'm going to talk about both.

MS. SILVERSTEIN: Talk about gas.

MR. BUCCIGROSS: Okay, I'll talk about gas.

MS. SILVERSTEIN: Thank you.

(Laughter.)

MR. COCHRAN: I'm Tim Cochran, and I'm with Data Interchange Standards Association or DISA, in Alexandria, Virginia, and my topic today is really going to go over a brief success story in standards development using the UPC bar codes as a case study.

MR. BIERMANN: Hello, I'm Gary Biermann with Lockheed Martin Corporation, and I will give a couple of examples of how we as a large system integrator, manage complex programs and use processes and methodologies to achieve the goals of our customers.

MR. HEWSON: Good morning, I'm Brian Hewson with the Ontario Energy Board, and I'd like to share some of our successes around putting in standards for electronic

business transactions for the retail market.

MS. SILVERSTEIN: Mr. Hewson, and you, too, will have to get more comfortable with your microphone when you talk. Mr. Buccigross, take us away on the gas topic, please.

MR. BUCCIGROSS: Thank you. I'll describe the NAESB, formerly GISB process for development of gas standards.

If you won't listen for a minute, I'll tell people that this is exactly the same process that is used for retail electric, retail gas, and wholesale electric standards, but I'm not talking about that.

Seriously, I'll go through the questions again, because it's a good way to frame the discussion. And the first question in this was: What processes have been used to organize players and competitors with diverse interests to work together to produce a common result that effects everyone's business.

Well, I think that the key, again, from the NAESB point of view is the open and balanced representation. If you let everyone have a seat at the table and let everyone participate, even though they may have diverse goals, in some cases, mutually exclusive goals, the ability to sit down once the FERC or state commission has made the policy call and said here's how it will work, here is the public

policy behind this, it's pretty clear that players sit down and negotiate with each other because the alternative is to have an order from FERC or an order from the state commission come down, in which case they have essentially no say, and save the comment process.

It's a lot more expensive. Attorneys need to eat, too, but they don't need to eat off arguing about some benign data standard, for instance.

I think the voluntary participation allows people to come and play, if it's important to them. If it's not important to them, they don't have to come, and they can monitor everything NAESB. And NAESB is open and they can monitor it through the website or through teleconferences, but if something is important to them, they can come to the table.

I think the multiple levels of voting ensures fairness. I talked about the veto power earlier. Because GISB/NAESB requires at least some approval from each of the segments in the wholesale gas industry, and those segments are producers, pipelines, local distribution companies, end-users, large and small, and services, which are your marketers, brokers, and software providers, each of those segments has the ability by simply voting unanimously against a standard, to stop a standard.

That doesn't happen as much as you would think,

because the negotiation up to that point has essentially

addressed the concerns and the goals. No one is going to

work three months or six months to develop a standard,

knowing that it will not pass, because Segment A or B or C

will not support it.

And, finally, I think one of the things that

helps us is that the NAESB standards for wholesale gas

account for regional differences and they account for

physical differences within the pipelines. I will not get

technical, but there are different pipeline designs, a web

design versus a long line.

A model, an absolute model that works for one

would not work for the other. NAESB came up with a model,

for instance, that has options. You either do it A, B, or

C, depending on your physical layout, but you have to pick A

or B or C, and you have to stick then to those standards.

So the ability to account for regional or

physical or differences in the marketplace allow NAESB to

overcome some of these thorny issues. I won't say we've

never failed to reach consensus. I can think of one issue

which was fuel that we didn't.   Right now, I can't think of

another one, to tell you the truth, though.

The second question: What are effective ways to

frame the questions and move the discussion towards

consensus and agreement? I think, again, if the Commission

makes the policy calls, then NAESB, historically, has been able to implement the policy to business practice standards.

Develop based on an annual plan, which the Commission obviously has input into. It's balanced across players. The annual plan, which determines what standards NAESB will work on, has to be approved by a majority of all membership, so it's not a situation where, again, one segment or segments or multiple segments can drive it.

There has to be consensus to even work on something. Generally, I won't say that that consensus is forced by the Commission, but common sense, again, says that if the Commission says, gee, NAESB, we would like you to work on intra-day nominations, if you don't, we will, then obviously anyone that's got an interest in that is going to come to the table within NAESB because they want to participate and have a say.

And I think that historically that has worked. It worked for intra-day nominations; it worked for partial-day recalls; it's worked for Order 637 issues; it's a success story.

We also have the ability where individual members or even non-members can request a standard and say we think a standard on this is applicable, or we think a standard on nomination timelines should be modified. We have a process whereby that goes through multiple layers of subcommittees,

multiple votings. I'm going to beat this to death, but it goes through a 17 to 2 vote at the Executive Committee and goes to a two-thirds vote of GISB or NAESB Wholesale Gas Quadrant membership.

Only after a standard goes through that whole process does it become a NAESB standard. There simply has to be industry support, or it won't make it through that process.

Historically, as I said, what happens is, the sharp edges are filed off in the subcommittee, and a standard comes out that everybody can live with. Some people aren't happy with it, some people are ecstatic with it; most are accepting of it, if not strongly emotional either way. But that's good.

Third question is: How long did it take between starting the process, reaching agreement on what needed to be done, and effecting the changes? Obviously that depends on the issue.

If it's a cut-and-dried, if you will, technical issue, that whole process, which sounds somewhat arcane -- but we can't go through that whole process in as little as three months, including the 30 days of industry comment period.

And, again, so as not to make you blind with slides, I have handouts in the back that describe that

process. If it's a thorny, complex issue -- I've mentioned intra-day nominations for natural gas pipelines -- the process could take a year or so to get through the whole process.

So it depends on the issue; shortest, three months; as long as a year. I would say that the mean is probably six to nine months, which makes sense.

And, finally, this one I love: What are the critical elements of success and what are the pitfalls to avoid in the standard-setting process?

One, as I have said -- and I'll say again -- is the policy has to be made by the appropriate jurisdictional body. In the case of wholesale gas, we're talking about the FERC. In the case of retail, we're talking about state PUCs.

If you leave it to the industry to make policy, I don't think you're going to get a cogent, succinct policy statement. Don't exclude anyone. Anyone who wants to participate, including the software vendors, and not at the bottom of the chain, borrowing from the gentleman that spoke at our last discussion, they have to be involved from the beginning, from the start of the process.

Critical elements of success: Interaction with other groups in NAESB, and I'll stick to GISB at this point, again, interact with the gentleman to my right, with ANSII,

an accredited ANSII SDO standards development organization,
crosslinks with utility industry groups, with the Mid-
Atlantic Regional Standards Organization, now called
Freddie, which does state standards. Let everyone have a
bite at the apple.

And I'll close with this: I actually used to be
a software developer and manager before I went to law school
and they forced me to expunge any technical knowledge I
possessed, but it is important that the software providers
and service providers and vendors be involved, because
ultimately they're the ones that have to make it work.

They may not care whether the standard says 10:00
or 11:00.   They may not care whether it's XML or EDI or a
player to be named later. The fact of the matter is,
whatever it is, though, they're the ones that have to make
them work; the need to be involved. Thank you.

MS. SILVERSTEIN: Thank you. Mr. Cochran?

MR. COCHRAN: Thank you very much. First of all, I'm very glad to be here. Appreciate being invited. I head up EDICA, what we call our E Commerce Operations area. But just as a real brief background, we work with a number of standards organizations.

As Jim had mentioned, we're not DISA, but we work with X-12. That was the reason that we came into being back in 1987, to be the accredited standards organization that serves as the X-12, accredited standards organization X-12, EDI standards development organization. And we've recently done some -- we've sort of moved into some areas where we're doing other industry-specific assistance. And that's some of the things I'm going to be talking to you about, trying to partake some sort of learning experiences we've had on the standards development process on gaining consensus and that kind of thing.

As Jim had mentioned really in the first session, the ANSI process, it can be looked at sort of in a negative way by some people because it's looked at as being slow sometimes. It can be, but that's not integral to the ANSI process. The critical parts are the open process, the availability of having any and all participants, stakeholders that are interested in the project to be able to participate.

It's consensus-based, which is critical. It doesn't mean things have to be unanimous by any means, but they certainly have to have -- be strong in that direction. And they have to be balanced. You have to have representatives from all of the concerned areas within the standards community at hand.

What I'd like to do is use today as an example, the development of the Universal Product Code, or the UPC code that we're all very familiar with now, back in the early '70s and how that process worked successfully beyond anyone's really hopes I think at that point.

Bar codes were first developed back in the 1940s. The first use that I'm really aware of is they were used in the rail industry to go ahead and to track shipments, rail cars and that sort of thing, that belonged obviously to many rail carriers across the country. That did work. They've moved to other systems since, but that was the first real implementation of it back in the very late '60s.

The grocery industry certainly is the one that put bar codes on the map in the U.S., and then as an extension, certainly and as a partner in the bar code development and maintenance, the EAN, the European Article Numbering standards organization that's European and now really global. The grocery industry back in really the late '60s had some very early tests, proprietary tests of bar

codes, symbologies and some very primitive scanning systems done by Kroeger and I think it was Proctor & Gamble in Cincinnati at the time back in 1966.

The UPC as we know it came about I think it was 1973, June of '73 it was actually officially adopted by an ad hoc committee put together by both the Grocery Manufacturers Association and a number of industry associations representing both the grocery retailers and distributors.

They got together, formed the first critical step there was obviously you have to have a need and you have to have an understood need by the parties representing different aspects of the industry that, hey, we need a standard, because there's a benefit to us to have this. And the grocery industry, on the retailer side, was the first group of -- the first area that realized this would have some pretty good benefits to them as far as certainly the first one everyone thinks about is enhanced checkout, which inventory control, it reduces your inventory needs. It certainly gives you a much faster checkout, much more accurate pricing, that kind of thing.

And back in late 1969, the grocery industry, the retailers in the grocery industry, put together a meeting of five different associations representing the retail and distribution side and asked grocery manufacturers to go

ahead and meet in Chicago.

They met and had a pretty short meeting where they both went off deciding, well, we know there might be some benefit, but we can't really decide on things as technical and mundane as like the retailers wanted I think it was a ten-digit code, and the manufacturers were set on an existing six-digit code that they used, and they pretty much left the table thinking, well, this is insoluble. It's not something that's going to come about soon.

The retailer side knew this is where they had to go, so they went in as little as I think six months later, they went and called the same group of people back together and basically put on the table that if the manufacturers did not join in this effort and kind of move along this direction that they probably would be forced to go ahead and build a standard that would become in their views an ad hoc standard. So by doing so, they threw some polite curves, and I think they suggested, hey, we ought to work as a partnership here.

And they did. They went and looked at the benefits on the retailer side are certainly obvious, like the ones I had mentioned. It certainly increases the productivity at the checkout. It reduces the errors. It eliminates the price marking and then of course the re-marking and the re-marking again when prices do change. I

speak from experience. I worked for Safeway for 11 years, and that was one of the less than fun things to do on Mondays was go around and take all the ink off all the cans that were marked and put the new price on, probably about I would say a quarter of the items in the store.

The inventory reduction, and then soon to follow, being able to do direct store delivery to the back door. It really enhanced the productivity of the entire system from the manufacturer to the distribution center to the retailer and obviously to the customer.

The soft savings that they were looking to gain and in fact have are it helped in shelf space allocation, labor scheduling, shrink control or theft. It reduced spoilage. It helped certainly in evaluation of advertising, the effectiveness of advertising by knowing exactly what products were leaving the store. It reduced out of stocks and it helped considerably in the evaluation of new products which haven't often.

They took a very conservative approach. They had to, again, another critical thing is you have to go ahead and prove to the constituents or the stakeholders that there is an upside to this before you can get companies to get involved.

And what they did is they hired a consulting firm. I think it was -- I can't remember it. I'm sorry.

Hired a consulting firm and they came up with a very
conservative approach of analyzing it and decided that based
on the average size store which sold $40,000 worth of goods
a week, that they would need I think it was 1,500 stores to
be implementing a scanning system before they would have a
break-even point where they would actually start making
money as an industry, both on the manufacturing side and the
retailers.

And a critical success factor in any kind of a
standards organization succeeding is you have to get buy-in
from the highest level of the organizations that are at the
table. They early on in their first meeting had more of the
technical people than the mid-level managers at the meeting.
And they basically came up to a dead stop on a very
technical issue, where the issue really at the time was a
political issue.

And they needed to have really the CEOs sit at
the table and decide, well, based on the findings of our
analysis and our work with the consultant, we know we're
going to save money. The matter now is who's going to do it
first? Are the manufacturers going to -- you had the
impasse of -- certainly retailers weren't ready to invest
the very substantial funds in scanning systems and in-store
systems in general needed for this, prior to having any kind
of real product being marked with the symbology of the

labels on their labels.

And the manufacturers didn't have a great deal of interest in the very significant costs of relabeling all of their products if there was not a significant number of scanning operations in place.

And I think on the vendors side that made the equipment, there was not a great deal of interest to do anything if there wasn't a market. And up until 1973, early '73 when the grocery industry as a whole finally took note of this and it looked like it would be a success, they thought well, there will be market obviously if all the retailers and distributors go ahead to start to do this, that the vendors, the NCRs, the IBMs and so forth, they came to the table anxiously looking at participating.

I think it was June of 1973 was the decision to go with the symbology that they have in fact taken. They have some very interesting symbologies that are on shipping container codes which are the case codes and the individual item codes, six-packs of beer, for instance. And the EAN, European Article Numbering organization and UCC, the Uniform Code Council, which maintains and gives out the manufacturer numbers in the U.S. and North America, they have agreed and recently announced they're going to merge as one global organization, which is always good news.

Just to leave with you that the initial parts of

setting up the organization are getting the key stakeholders involved. And I think you have all of those at the table. Clearly, our experience has been that you want to -- it's probably a better direction to go in having a -- I don't know if you want to call it a third-party organization or an organization that will have certainly all of those players at the table. In fact, they should be the governors of the organization. I would imagine FERC would certainly sit on there if not lead it. And you would have all the other parties at the table as their board of directors or board of governors.

In that way, you wouldn't lose the participation critical, but you would also have I think somewhat arm's length, you would have the organization, and they'd be able to be a little more independent. So I would just suggest at least looking at that direction as a proposal.

In all of our initiatives -- we work for the Interactive Financial Exchange, the Mortgage Industry Standards Maintenance Organization, Open Travel Alliance. There's a new one that's USDA-backed -- the Meat and Poultry XML group is a state XML group. They all have that kind of a governance structure, and it's critical I believe to have those people not just be there to direct the organization but also play a part in the PR and the implementation role which is immediately following.

One of the questions as far as how long does this kind of process, I think that Jim's correct. It can be any length, depending on the scope of the project obviously or the resources at hand. We have organizations that have gone probably in as little as six months have gone from having at least a version one of a specification from the very preliminary meetings all the way up to probably more realistic is probably 18 months to two years before you'd have an implementable full spec.

And I'm talking about organizations that might have a broader scope than yours. So I apologize. It could be -- I know you're on a fast track, but we'll see. Anyway. Thank you very much.

MS. SILVERSTEIN: Thank you. One question, getting a little more granular, were the folks in your stakeholders, how much of this actual technical work was done by representatives from the stakeholder community, and how much was farmed out to consultants? And did you have just sort of day-to-day technical groups wading through the grass on this?

MR. COCHRAN: I think it's fair to say in almost all of the circumstances, it's done by the member organizations of the community. They will use on a case-by-case basis a very limited number of consultants.

But it's really the members, and not just the

members obviously of the governance body, but all of the members of the organization that belong to, call them interoperability committees, across some of the seams we're talking about. Architecture committees that talk about the actual, in this case, all these are XML-based specifications. That kind of thing.

And then certainly OTA, the Open Travel Alliance, is a good example of having vertical representations in what they call work groups for the air carriers the hoteliers, car rental companies, cruise lines, rail and so forth.

So you have your business process areas and then you have your technical areas.

MS. SILVERSTEIN: Thank you. And I will note on the matter of the blackmail, it appears that the retailers won. I count ten digits in the UPC here.

MR. COCHRAN: Yes. And it actually wasn't the same schema. And there's 12 actually. There's 10 digits -- the first five or manufacturer identification like a PP&G. The next five actually say it's this brand of toilet tissue, for instance. And then there's a check digit that runs through an algorithm to make sure that it's scanned correctly. And then the first digit designates what product area it's in. For instance, three I believe is health care, that sort of thing.

MS. SILVERSTEIN: I'm guessing zero would be

office supplies. Ladies and gentlemen, you just never know what you're going to learn when you come to FERC.

(Laughter.)

MS. SILVERSTEIN: Mr. Biermann, please.

MR. BIERMANN: Good morning. I'm Gary Biermann from Lockheed Martin again. Obviously, Lockheed Martin doesn't have real deep domain expertise in the energy industry. However, we do have pretty good domain expertise as a large-scale system integrator, not only for the customers that we're traditionally recognized or associated with like the Department of Defense, but also virtually every other major federal agency: FAA, DOT, DOJ, DOE, as well as a number of very large commercial customers: GM, Nike, J.P. Morgan, et cetera.

So basically, our job as a large-scale system integrator is to help customers who have very large problems, not very well defined, to define, architect, implement and sometimes operate the systems that they need to meet their goals.

In thinking through the questions that we were provided, I felt that there might be a couple of different examples I could give on how we approach these complex problems that our customers ask us to solve.

A couple of examples, because we can hit it from kind of a large scale, very complex problem to something a

little smaller and closer to the problem set that appears to be facing FERC and your constituents today.

The first example I'll go through is a program called Deep Water recently won by Lockheed Martin. It happens to be the unit I'm with, so I'm somewhat familiar with it, for the U.S. Coast Guard. This program is basically to revamp the entire infrastructure and assets of the United States Coast Guard. All the ships, aircraft, infrastructure, communications, command and control.

So a very large, multi-billion dollar multi-year program. Our major partner on this program is also one of our major competitors. That's common in our industry that we work together with people that we compete with at other times. And there were literally hundreds of customers, partners and vendors involved in the architecture and design of the system solution for the Coast Guard.

The basic problem, to frame it for the folks, is that the Coast Guard today has many aging assets, many of which could not communicate effectively with one another. They had many legacy systems, and part of our task was to determine which legacy systems would remain and which legacy systems would be replaced and by when.

We set up what we call an Integrated Program Team. You're going to hear a common theme here. You've heard it from a couple of the other panelists, okay, which

has as its members all of the stakeholders, okay, to include the customer, our partners and our critical vendors. Our role in that IPT is often to act as the customer advocate and to drive decisions, okay.

We enable the IPT team as we call it, through collaborative working environments which allow very efficient communication of documentation, design data, modeling and simulation data, to ensure that everybody is working on the same page, that there is one record of authority we call it of what the outcomes of the meetings and designs are.

Okay. The Coast Guard defined the high level operational requirements such as response times to emergency, handoffs between air, deep water surface and shallow water surface vessels, acquisition budgets, M&O budgets, and manning requirements.

It was Lockheed Martin's task then to determine the appropriate force structure. Again, aircraft, ships, shore facilities, and to meet the mission parameters of the Coast Guard.

In order to achieve this, we came to an initial consensus on the high level requirements within approximately six months. So again, it's really critical that you take a system engineering approach. What are the high level goals, the operating goals and the business

goals, if you will? And define those and get consensus

among all the parties. Because you're going to use that

again and again. You're going to keep coming back to it.

Based on this, we're able to simulate various

scenarios, work "what if" requirements as defined, and as

well as consider remaining flexible to meet potential new

changes to communication, command and control for new

mission needs, long-term M&O costs, critical communications

with other agencies, et cetera.

The entire study and design took approximately

two years, with many iterations along the way, including

changes even to the operational requirements based on

findings that we got from these modeling simulations that we

run as well as changes in world events, like September 11th.

We found that by clearly communicating the high

level requirements to all the team members, which are much

easier to arrive at consensus on, we were able to move

forward with working on the implementation options more

quickly. Again, as different constituents may have

disagreed on a way of implementing something, we could

always drive back to how does implementation A versus B

serve the ultimate high level requirements? Which is the

better solution for the customer?

By enabling the efficient communication and

sharing of data, we could dramatically reduce the time it

took to come to consensus while ensuring that all parties felt that they had equal opportunity to participate.

We were able to isolate data considered business sensitive to each partner while still sharing the results of their work with those team members who needed it. And Lockheed Martin and its partners designed the force structure of the future of the Coast Guard, negotiated with platform vendors, aircraft and ships, determined the needed infrastructure for command, communication and control, and planned out the acquisition and M&O schedules and budgets in a two-year space of time.

We're pretty proud of that achievement. Another example that I can give that's more related I think to driving standards was in the medical industry. We used similar approaches, as you'll see, to get to the results needed in this particular problem space.

We were working with digital image management systems for medical applications. The medical industry needed to find more efficient and cost effective ways to share patient diagnostic data. In this case it was decided that a standard was needed to capture and communicate that data.

Again, an IPT or an integrated program team was used with equipment vendors, medical practitioners, regulatory agencies and insurers represented. Lockheed

Martin was brought in as a partner with a major medical device manufacturer to help drive the requirements as well as to design their solution.

The first decisions to be made were what data needed to be diagnostically or for billing purposes or regulatory reasons shared. I.e., high level requirements. What data needs to be shared?

The next step was to define a standard communication protocol since none existed at the time that could serve the purpose.

The definition of the data set need was accomplished relatively quickly. The communication protocol took much longer due to the variance needed for each of the major medical practices, such as cardiology or radiology. It was a fairly complex set of data that needed to be shared and a somewhat inefficient method of communication -- committees, monthly meetings, hard copy reports going back and forth.

Because there was a large installed base of equipment with proprietary data structures, it was decided to move towards data sharing in phases. Hospitals had a huge investment in imaging equipment. To get inside, if you will, the equipment that was already installed and make changes was a very costly retrofit. So it was decided that a black box, if you will, would be attached that would

translate the proprietary data formats into a standard format, because a truly network solution was also a complex solution. It was further decided that CDs would be produced as the first medium of data transport.

This still enabled significant cost savings to the hospitals over such media such as cinema film, which they were using at the time. But it was also an effective stepping stone to the final network solution that the industry was looking for.

The vendors, by way of regulatory pressure and customer pressure, complied with this approach and as it was cost effective for both them and their customers. The next step was step was to design a truly network capable solution for new equipment being offered. In this way, data from the legacy systems as well as the new systems could be shared and the advantages of fast electronic data transport could be achieved.

Some vendors chose to keep their proprietary data buses inside their systems and build gateways, if you will, to the network to meet the standard. Others chose to redesign their internal data buses to meet the standard, the open standard, all the way through. We didn't drive that. We allowed the vendors to choose a solution that made the most business sense to them.

One advantage of defining a standard was that it

also opened the door for third-party vendors, enabling price and performance choices to the customers.

The time from the formation of the standards committee to the production of the first compliant box -- this is actual hardware out in the field -- was a little over three years. In this case, the collaborative environment I mentioned in the Deep Water program was not used, so we think that it could have been expedited somewhat.

Basically, as you can see, a similar approach was used in both cases. The integrated program teams, the communication up front, somebody to drive to decision. The standards were common. Defining the high level requirements or the business objectives, if you will, up front and always taking a look at the implementation in terms of how does it meet those and making decisions based on that was used in both cases.

Having a neutral third party with appropriate skills that can be a trusted advisor is sometimes useful to help facilitate decisions. Jumping to an ultimate solution is also sometimes not realistic, as in the case of the medical example I gave, so compromise or phased approach might be the best solution in order to make it economically feasible for all parties. And taking into account the investments in legacy systems and the impact of the change

is also very important in trying to decide how to solve
complex system problems.

MS. SILVERSTEIN: Thank you very much. Mr.
Hewson?

MR. HEWSON: Thank you very much for the
opportunity to participate. As I said, I'm Brian Hewson
with the Ontario Energy Board. We are a market regulator
with a focus on the natural gas and electricity retail
markets in Ontario.

We do oversee the activities of the IMO that you may be familiar with but we don't directly set its standards for how it interacts with parties.

What I want to talk about today is the EBT standards process that we put in place for our retail market. We opened the re- oh, I'm sorry -- electronic business transaction standards, and those standards were developed as a result of the Board approving its retail settlement code which set out the rules for how distributors in our marketplace and retailers in our marketplace have to interact. That code establishes rules for settlement, enrollment, and various types of billing that distributors and retailers are obliged to do in the marketplace.

Given the fact that when that code was approved in February of 2000, there was approximately 165 distributors, each of whom had to provide a service very similar to what an ISO does in this territory in terms of dealing with each individual retailer, assigning customers, suppliers, and doing billing and settlements within that service area. We had to come up with a solution that allowed retailers, who were going to be very few but had to deal with all those different parties, operate in an efficient way.

The Board has an objective to facilitate competition. It also has a very strong objective to make

sure it does such in an efficient way. Very quickly on the Board approved the concept of a standard that all distributors and retailers would implement, brought together a working group of key stakeholders that were willing to invest time and effort into the process of developing the standards. The first work of that group was to come up with the business processes that built on what was already required by the Board in is regulatory document.

The second thing the working group had to deal with was the fact that the Board had given it a very, very short time line. We were looking at the potential that we needed a standard in approximately six months, a standard that would allow all of the activities necessary to go on and to go on in a very, very, very efficient way.

The Board ensured that there was a staff person assigned to that group. It determined early on, even though it was, I believe, quite reluctant to get into the business of designing standards or having any oversight of the standards, it was convinced by the stakeholders' reluctance to take on the work without significantly regulatory guidance and direction, to ensure that there were senior staff people involved in leading or giving direction and guidance to the group.

I did not chair any of the working groups or any of the subcommittees of the working groups. It was my

responsibility to attend to provide guidance and direction where questions arose as to what was to be done. We had a large working group with several key stakeholders develop very quickly, and did accomplish the first task that the Board set out which was to have a standard approved on a consensus basis and presented to the Board within five months. So around June of 2000, there was the first version of the standards.

That process was very intensive. It involved vendors, but it also involved the key business players, the retailers and distributors. And like many of the other people that have spoken before, we recognized early on that we needed the vendors involved. While we did not want the vendors to be designing what business processes had to go one, we realized that given the tight time lines, you have to ensure that you're using products that are available there. So the process we adopted was a very much consensus-based process to get to the first set of standards.

Fortunately, by the time we approved the first set of standards, the government had decided to delay the market opening for some period of time. We also thankfully about 120 of the distributors disappear, so we now have just under a hundred distributors that we have to deal with. But they still vary in size of distributors who serve under 200 customers all the way up to ones that serve over a million.

And so we do have the challenge of trying to ensure that a standard will work for the very small and the very large. Following the delay in market opening, the standards were put back to the working group that had been formed. It broadened and included a few more vendors. We have a hub focused models in that there is a series, in fact in our marketplace, three service providers who provide all the transaction flows between the different parties, so a retailer and a distributor may be hooked up to a different hub, and the hubs have to interact.

One of the principal documents we had not completed at the time of the May documents was the protocol, the transport protocols. Given the fact that we were using an XML base for design, and I'm stretching my IT understanding very much here. I understood that it was much easier for us to develop a number of these protocols because there were already documents around, not documents necessarily related to the energy industry that people were able to draw on, but certainly the different types of protocols that we needed were out there in different industries.

What we have been able to continue on with is a stakeholder driven process with the regulator being there to provide the guidance, and the direction when the stakeholders become derailed. I think that that is the most

important thing that I can share with you is I believe the

FERC will have to ensure, based on listening to what's gone

on so far this morning, have to ensure that it is willing to

put some resources into monitoring and providing guidance

and direction to whatever group is out there developing

standards. If you don't do that, I think you will have the

case of significant delays and be faced with many more

formal decisions that will have to be taken by the

Commission.

What we did through the consensus-based approach

that we've undertaken, we have been able to have basically a

very limited process around approvals by the Board for

changes to standards. It is unlike anything else that the

Board does when it deals with approving standards. It is

very much based on an industry committee recommending

something, staff bringing it to the Board, and the Board

approving it. There is no portent of any hearing process,

any more broad consultation process because we have a

completely open working group and advisory committee

structure that allows us to get all stakeholder input prior

to taking anything to the Board.

There's no voting process. It is clearly a

consensus-based process. We have key players who are always

at the table, other players who, as other people have said,

show up when they're interested but they don't show up

otherwise.

I think that we were very lucky that we had a very tight time line. Once we had the initial standards done, we had a little bit more time to go back and fix a few things but we honestly did still know that there was a 16- to 18-month period in which we could finish everything and we did have it done in time. It was completed in December of 2001. And that was the final set of standards which are still operating today with the 94 distributors, 10 retailers. There's approximately 580 different relationships where Electronic Business Transactions are flowing on a daily basis, and many thousands of transactions flow on a daily basis. We have over a million customers who have enrolled with retailers for choice in the marketplace. So you can just imagine when there's a bill for each of those customers, there's a settlement statement for each of those customers, there are enrollment transactions for all those customers, and the amount of traffic is just phenomenal at this point. And it seems to work very well. We've had the odd bump and the odd issue to come up, but those issues are still being resolved through the same working group process.

We haven't seen any greater difficulty in coming to resolution because we now have operating systems. And where we have had any kind of delay or any kind of slowdown,

they have been expecting, the industry has expected the
regulator to step in and give them a push to get to
conclusion, and they've appreciated the push. I can say
certainly that there is no industry participant out there
feeling they are not getting their opportunity to have a
say. But they are certainly glad there's a regulator to
give a little bit of a movement behind what they're doing.

I think that I've tried to answer the questions
as best as I can from our experience. I just wanted to
provide you with that input on something that I believed
worked, worked very well and accomplished something in
almost the same time line that you're looking at.

MS. SILVERSTEIN: Thank you. I'm going to take
the liberty of trying to summarize the things that I heard
that get to the question of critical success factors because
I think that is what we need to take out of this discussion
and move forward and I'm going to roll through the list and
ask those of you who are our experts and those who are my
fellow staff members to make sure I didn't miss anything by
the time I get to the other end.

As I heard the common themes, they are opened and
balanced representation and everybody having a seat at the
table. Policy has to be made by an appropriate
jurisdictional body. And the regulator, in this case,
whoever it is, the Coast Guard or whomever, the folks in

charge have to know that they are in charge and they have to
make clear. It sounds like people expect them to act like
they're in charge at regular intervals as needed. And if
that is not done, then you're going to pay for it later on,
both in terms of the process and in terms of the regulator
having to work harder later, which none of us want.

All of the vendors have to be involved because
ultimately they're the ones who have to make it work, and so
that means they need to be full participants and equal
stakeholders. The benefits and the costs of not acting need
to be clear to all players within the industry and the
vendor community. Related to that is again getting the key
stakeholders involved, which is an echo that we've heard
throughout the morning. But beyond that, there needs to be
some sort of governing or managing organization that is
stakeholder reflective to make the process work so that not
everybody has to be involved in everything but you have a
common set of themes and sectors and adults making a
consistent set of decisions.

You need to develop through consensus high-level
requirements, what your goals are, what your needs are early
on and you need to communicate them again and again and
again, and you need to use them as the touchstone to make
every decision that the organization -- you all are nodding
regularly; this is a good thing -- so that you use those

requirements as the basis and as the comparison point for the set of decisions that you make as you try implement and development these. You need regulatory pressure to comply with this as well as just to make sure that the decisions are being made in a timely fashion. I think I already said this. Always take the implementation issues back to the high level requirements.

Leverage from the legacy that you've got. Don't reinvent the wheel but live from other people's protocols, plagiarize from other industries, take the best that's out there from wherever it is, rather than trying to shake the Etch-A-Sketch and start over again.

One last thing, on the regulator or the role, and that is to monitor and give guidance and direction to the work groups so that everybody stays focused and stays moving, and that you give small directions early on and continually large direction where needed, rather than waiting till an impasse is reached.

Did I miss anything?

(No response.)

MS. SILVERSTEIN: Any discussion or comments from you all or from members of the audience?

MR. BUCCIGROSS: I think the only thing -- Jim Buccigross; I'm sorry -- the only thing I might add and it was intrinsic in your bullets, is that the process has to be

defined and everyone has to know the rules and regulations.
You don't make it up as you go along, and I think that was
consistent across the panel too, that at the very beginning
was here's how we're going to work and here are the
procedures we're going to work, and here's whose going to be
involved, and so there's no surprises down the line.
There's a fairness, if you will market

    MS. SILVERSTEIN: Good point. Thank you.

    Mr. Cochran?

    MR. COCHRAN: I was just going add I think the
UPC code development has to be a shining example of a
successful specification without government influence which
you know it does happen. But it's important that the people
around the table, the stakeholders, understand that it's
more than their responsibility just to get their people to
the table. They're actually responsible for furthering the
adoption of the specification once its out there, and
critical, as I think we've all mentioned, that you have to
come to the table willing to compromise to get where you
want to go. And the key to compromising, I think, is if you
don't have the backing, if not at the table, but certainly
have the backing of your leadership, you're not going to be
able to compromise, not be able to move in the direction
that you have to go for consensus.

    MS. SILVERSTEIN: Just to address that, I don't

think this set of regulators particularly wants to be doing software standardization or rationalization. But I don't think we can waste the time waiting for the industry to get it organized itself.

MR. CUMMINGS: I'm Bob Cummings again from NERC. I do want to compliment all of these gentlemen for the success stories they have in their organizations. I think they're very admirable and I think would serve the industry well. I also would like to make a point of clarification from relative-to-vendor participation and NERC projects. As far as the tagging system goes, from the get-go, when we put the TISWG and the OSE together, from that instant, we were completely open to vendor participation in the development of the ETAG specifications where we did not have in the past vendor participation because of antitrust issues in some of our subcommittees and such. We are a purchaser of vendor software. Therefore we cannot do that. We have not had them involved.

However, in the new standard process that NERC is putting forward, it includes nine sectors which are balanced and consensus-based and there can be SAR commenting processes and writing processes open for vendor participation. So I want to clear up we do have vendor participation. We couldn't have done ETAG-1-7 from its inception to implementation in 18 months without their help.

MS. SILVERSTEIN: Thank you very much.

Mr. Swanson?

MR. SWANSON: Thank you. I'm Dave Swanson. I'm a consultant to Lockheed-Martin. One thing, Alison, that you didn't have on your list that maybe you don't want to put on your list but I think it's an important understanding that goes with the process here is that when you convene groups and you have an intent to drive towards decisions on design and implementation, that it be understood up front that once an agreement is reached, that involves the participation not only of the stakeholders and the vendors but also the FERC, that there is a cost recovery mechanism that is part of that agreement.

And to the degree that that is understood up front, and all parties are driving towards that, and FERC is part of the decisionmaking on what and how is done, maybe not making a decision on exactly how to do it but understanding that the consensus that's reached is the right thing then, many, many issues can be handled very easily by the parties that have to actually do the work if it's understood the costs can be and will be recovered under whatever mechanisms. Thank you.

MS. SILVERSTEIN: Mr. Swanson is a recovering EEI employee.

(Laughter.)

MS. SILVERSTEIN: But it's a very good point and thanks very much, Dave.

MR. DARNELL: I'm Dave Darnell with Systrans, sorry 'bout that, too loud, CEO Systrans, also involved in these groups, most of them, X-12, NAESB, and Ontario Energy Board. I was one of the first to be on the EBT work group there, and we developed software for that market. And I would just like to say, as a case study, that they worked tremendously well to get both the standards and the software to market very quickly, and just wanted to second everything that Mr. Hewson said on that.

MS. SILVERSTEIN: Thank you very much. Are you just lurking or do you have something to say?

(Laughter.)

MR. DWORZAK: Thank you, Alison. I'm debating whether this is the spot where I can torque my question to fit your criteria or whether I'm waiting for you to simply ask the field whether they have questions. So I'll take both.

I have two questions.

MS. SILVERSTEIN: What was it you wanted to say? Tell her your name.

MR. DWORZAK: Dave Dworzak, Edison Electric Institute. I'm sorry. Possibly an addition to the list and possibly a comment and certainly a question for the panel.

It's obvious, I think, from my perch that in the last year or two, there have been no shortage of equations with variables with unsolved values. The practical implication of that and meaning of that in these areas processes is people don't know where to begin and people don't know what to do first. There are so many things in the mix.

So my question for this panel, since all of you have extraordinarily successful processes on which to come before us today to have this discussion, my question is, where in your process and how in your process do you establish road maps. There are transitions need to be established, priorities need to be established. Who sets priorities, how do they get defined so that the process can actually get some traction and move forward?

MR. BIERMANN: I'll take a crack at that. Gary Biermann. As I tried to describe in my little ten-minute pitch. We try to do that kind of up front by making sure that the high level requirements, as we call them, or the operational goals and the business goals of the customers are defined up front. The next step in that, if you take a system engineering approach, is to say okay everybody agrees on that, now what's the next level of requirements that you need to define in order to begin either testing or implementing.

From what I've seen, and again I'm not an expert

in the energy industry, but from what I've seen here today,

what it appears to me is that we have a number of

committees, all with expertise, trying to take some piece of

a task on in setting standards. There may be some overlap,

there may not in some cases, but the bottomline that I think

needs to be remembered is the standard itself is not the

ultimate goal. The ultimate goal is more efficient business

operation in the industry that the standards will enable.

So again you need to start with, what am I trying

to achieve and it may not be that it's a standard, it may be

a business goal. And having some coordination amongst

what's being developed in the way of standards is critical,

as a large scale software developer, which Lockheed Martin

is, I look at this as modules of software being created in

these different standards. They're going to have to

communicate with one another, and if you don't define how

they're going to communicate and what's going to be

communicated up front, then the system won't work when you

try to implement it. So I would highly recommend you take a

look at it maybe from one step above where you are today.

MR. BUCCIGROSS: If I may answer Dave's question,

from a wholesale gas point of view, our road map is the

annual plan that NAESB has developed for the wholesale gas

quadrant.

To turn it to wholesale electric for a minute, I

think we do have a road map. I think it's in a different

form and I'll refer to it as the SMD NOPR. That probably

has enough work there to keep a lot of people busy and for

the foreseeable future. Put the time limits in there, it

gets to keep a lot of people very busy for a short period of

time. Will that turn into the wholesale electric quadrant's

annual plan? I suspect it will. Once that happens, work

begins almost immediately.

                MR. HEWSON: I guess what I could add to what the

other gentlemen have said is, in our process, our biggest

thing that kept the road map in place, we had a code, we had

a set of things the Board had already said, so that was the

basic road map in the high level. The other thing we had

was a time line. We had a real crunch to move forward so

there was no ability amongst the parties, and they realized

it to start going down different directions. They had to

keep taking the shortest direction to any result. And we've

been able to maintain that even now that we're opening the

market largely because the parties want to make sure that

they're solving the most pressing issue, and they can see

from both sides what the most pressing issues are. They're

usually quite apparent if you take the right view on things.

                Certainly from the Board's perspective, the way

we look at what is the most pressing issue, it is what is

going to affect a consumer at the retail level. That's

where we're dealing mostly. And so we stop and look at the most pressing issue for he retail customer and if the group isn't working towards solving those issues, that's when we'll refocus them. But so far, they've realized what those are.

MS. SILVERSTEIN: Mr. Cochran, any thoughts?

MR. COCHRAN: Yes. Just to throw in I think there's one question that has to be answered. All of the organizations that we've dealt with, other than X-12, and X-12 certainly is similar, but they all have had very early on, other than X-12, had a group of constituents that clearly understood the industry need, and it was beyond specific parts of the industries. To the better good of those parts, it was the industry value. And they are the ones that had to articulate it to the point where each of the organizations, if I remember correctly, went out and had sort of an industry forum, where they invited any and all participants in the industry to come and to hear the business case for developing a specification, the value, proposition if you will. And in each of those cases, you find that you get a large group of people coming that certainly want to hear, they don't want to be hearing it secondhand, so they'll come and it's the initial mission statement I think that you set out and obviously it would be this group that would be setting that out, as far as the

business proposition and the value in doing this, and maybe on the other side, the window of opportunity that might be lost if you don't do something now. The downside's not acting quickly which oftentimes is just as important in getting something done I think.

And I don't know if that was the question but certainly the next step is how the initiative going to be funded. That's a critical step. Each of the organizations that we're involved with certainly has, they have membership, they have dues, they have that kind of thing so that's certainly a next step along the way, but it's something you have to consider.

MS. SILVERSTEIN: Thank you. Are you waiting to comment? Please.

MR. DWORZAK: Alison, could I ask my second question, please?

MS. SILVERSTEIN: Oh, we're going to give him a shot and then you can ask your second question. Keep working.

MR. BROOKS: I'm Dick Brooks again from Systrans. I'm also a long-time member of GISB, NASEB, have co-chaired the Electronic Delivery Mechanism Group since 1996, and this year just accepted responsibility for chairing the Technical Electronic Implementation Subcommittee of the Retail Electric Quadrant.

It's pretty clear to me, from working in the technical community, that we face some really significant challenges especially when we start talking across the different quadrants within NAESB or across the industry. And earlier I made a comment about the retail, the merchant in this case. Ultimately, the responsibility does fall to the merchant to implement whatever gets decided. Ideally that merchant would have essentially one telephone on his desk that would allow him to communicate to the wholesale electric, wholesale gas, retail electric, retail gas, and not have to have separate telephones to communicate with each one.

And I think in order to accomplish this, we need to have a single organization that has responsibility and a viewpoint across all those various quadrants, especially as it relates to the merchant. Because ultimately it will fall to them to implement whatever gets defined. So speaking for the NAESB process, I think NAESB has the viewpoint, it has the representation, it has the organization that covers all of these areas that ultimately will sufficiently or efficiently produce standards that benefit the merchant.

MS. SILVERSTEIN: Thank you, very much.

MR. DWORZAK: To follow up again--Dave Dworzak, EEI--on process, when there is an unusual, extraordinary event, something that would potentially influence the plan, whatever the plan is or the priorities that have been established for the process, what kinds of mechanisms do you have in place to accommodate unusual extraordinary events, and I'll give an example.

Cyber security. After September 11th, obviously many things profoundly shifted in this country and the practical implication here is that the industry has been examining intensively now for the past year whether or to what extent various cyber security measures need to be put in place, or the extent to which existing measures are stable and successful. So the question maybe is twofold. What kinds of processes do you have in place to be able to sort of move on the fly, and second, what kinds of things have you found that you've needed to change in light of possibly new cyber security requirements.

MR. BUCCIGROSS: Jim Buccigross. First to the cyber security, yes, things did change both in the natural gas industry and the energy industry as a whole. For that situation we're lucky. We actually have a, if you will, standing item on the annual plan every year to look at security issues and to update them based on technology.

Something that was very secure three years ago is now at best moderately secure, and something that's 100 percent secure today or 99.99 probably won't be in two or three years. So I think there needs to be a constant evolution of the technical standards, less so for the business and commercial standards from the cyber security and format standards, there has to be a continuous and continual evolution of those, not costing people money, not having to reinvent the wheel, but simply to tighten those up on an economical on-going basis between balancing the security versus the expense.

As to the reacting on the fly, I'll give you a perfect example from the wholesale gas side. Our friends at the Commission in an order said something to the effect -- I'm paraphrasing -- wouldn't it be nice if NAESB were to look at creditworthiness standards and come up with a set of standards to submit to the FERC? Not only did they hadn't read the order yet but it was personally delivered to me in e-mail so I couldn't miss it.

We undertook, the vice chairman of the executive committee and I, undertook to bring to the Board meeting in Hunt Valley, Maryland, last week, an item to add to the annual plan. We had to shift things around obviously. We didn't have that many cycles. We pushed things I think a Mexican addendum to the purchase and sale. The purchase and

sale agreement got pushed back and creditworthiness got
pushed in. So there is the ability -- I'll say on a
quarterly basis but it's actually more often than that if
it's a special occasion -- to react. I will say this,
though. When you stick something in, something has to come
out.

          MR. BIERMANN: I guess I will add that
fortunately for Lockheed Martin, we're a little better
prepared for security concerns than most companies. I will
add, however, that in helping various agencies in our
country prepare for homeland defense, homeland security
issues, we're helping to shape where we need to go from
here. But relative to changes on the fly, obviously the
September 11th event impacted what we were doing relative to
the Coast Guard program I mentioned since it changed their
mission objectives somewhat drastically.

          And the way that we approach designs is we
capture, we have tools and processes by which we capture
everything from the requirements through the design, the
modeling and simulation and the implementation so that
anything that changes anywhere in the chain will
automatically roll out, if you will, into the other parts of
the develop chain and can be captured, and we know what the
impacts are. So that way, you can control the impacts of
any changes, starting from requirements down to something

happening on the implementation side.

For instance, if we have to insert new technology to meet some new goal, we know what the impacts are all the way across. So tools like that are useful to help you react when things change. When you're doing complex systems that's the name of the game. It always changes.

MS. SILVERSTEIN: We have the energy for one more question or one more closing comment from a panelist, and I see no people leaping into the air. Do any of you have something insightful to say in closing, or should we just say thank you very much?

Thank you very much.

Let's meet back here at 1:00 o'clock, please.

A F T E R N O O N   S E S S I O N

(1:10 p.m.)

MS. SILVERSTEIN: Sorry about the delay and thank you all for your patience. We're going to resume our Conference on Software Standardization and Rationalization, and we will start once again by -- there's something I want to tell you; don't forget to give your business cards to our Court Reporter -- that was what I wanted to tell you.

We will start by first going down the row and remind us of who you are and who you represent, and then we're going to have the first topic that we want each of you to discuss in sequence is what do you think the goals of this exercise should be. The second topic we're going to go down the row asking you is what should the process be based on the material we heard this morning and the ideas that you've been thinking about for these many months and based on your experience in this industry.

And then last we're going to try to work as a large group to develop a plan for how we get from here to there. So the first thing we're going to do is going down the row in a lightening round, identifying yourselves, starting with Gordon.

MR. van WELIE: Gordon van Welie, ISO, New England.

MR. BRITTON: Jay Britton. I'm Senior Systems

Architect with ALSTOM/ESCA.

MR. MICHOR: Gary Michor, The SPI Group.

MR. RISTANOVIC: Petar Ristanovic, Executive
Consultant with Siemens.

MR. OTT: Andy Ott with PJM.

MR. WATKINS: Don Watkins, I work for BPA and
chair SEASICK.

MS. SILVERSTEIN: Gordon, our goals, please.

MR. van WELIE: Okay. I've got up on the PC
here. I wonder if we can get it up on the screen?

MS. SILVERSTEIN: Can we get the feed on?
Thanks. From the computer, and let's tighten up the image a
little bit please.

MR. van WELIE: And I'm working here from panel
three. And panel three, slide one goal. So the way I've
organized this, I've got two slides for the goals and two
slides for the process and the plan, and you'll be able to
follow along in your handout.

Under standardization goals, what are laid out
here are principles in scope because I think it's very
important that as we set goals, at the level of how do we go
ahead and standardize it, we have got some guidelines in
which to work.

The first principle I'd like to highlight is a
project management of the standardization effort is

critical. The direction, the scope, and the funding will
determine the success. We must design with multi-vendor
involvement and support in mind. Any standards we develop
should be in the public domain. And the standards should
allow for proprietary enhancements or regional differences
with the one caveat that as long as they don't compromise
interoperability or predictability of the function. In
other words, introduce market seams.

I think we need to be careful about determining
scope and later on during the course of this panel, I've got
some ideas on how we might do that but I think the initial
scope, in order to extract the most value from the software
standardization effort is to standardize the core market
roles and operating procedures consistent with the FERC SMD.

Also to define, at a high level, the
architectural functions, components, and the software
architecture that would support the way the market operates.
I call this standardization at the functional level.

We need to standardize the data interchange
protocols internally and externally and we need to have a
basis for modeling the power system in the marketplace in
terms of the data model.

The other thing I think we really need to take a
look at is software security standards. There's been much
discussion about the possibility of getting down to a plug

and play level and I use those words very advisedly in this
industry, and I think that if we want to go there, that's
part of the longer term scope.

I make the comment here that it's probably
technically possible but may not be practical because it may
not be realistic or cost effective, given the relatively
small size of the industry, let's say relative to something
like Microsoft that have actually achieved it but on the
back of obviously enormous industry and volume.

The other thing I would put into the bucket of
longer term scope is benchmarking and testing standards for
software components because you can't do that until you've
actually achieved that first step.

And then the next slide is really just for me one
of the goals is to actually define the responsibilities. So
I think it's very important in order to get direction in
standard sitting that we clearly define the responsibilities
and therefore I just throw this slide up once again for
consideration.

Thanks, Alison.

MS. SILVERSTEIN: Thank you. Mr. Britton? I
recognize this is fabulously inconvenient for everybody but
think of it as afternoon exercise.

(Pause.)

MR. BRITTON: Thank you. I'm Jay Britton and

after that little bit of shuffling, we'll get started on the
first part which is the goals that I see and my comments
this afternoon are going to relate specifically to the
software standards part. I think our discussion has drifted
back and forth. In fact, it's spent a lot of time on the
business standards process but I'm focusing in here on
software standards.

        And I list five goals here, which I hope you can
see up on the screens. The first one is information
exchange between independent systems. I think again most of
the discussion that's occurred so far has been on this
topic. That standardizing the business interaction between
independent systems and inter-system exchange has certain
requirements that are unique. At least some aspects of this
are quite urgent in the initial deliveries of SMD. So this
is a very important task and deserves the attention.

        Item two, though, we also have goals in the area
of creating competitive supply, competitive software supply.
And we do this, first of all, we want to have a cost
effective or a process that keeps costs down, but I think
probably even more important, we want innovation fostered
especially in some of the algorithms that are employed in
these systems.

This can be a longer-term objective. It can be something that you achieve over a slightly longer timeframe than the initial timeframe than the initial delivery.

Item 3 that I want to raise is one that hasn't been mentioned yet, and I -- this is a drum I'm trying to beat. I think it's extremely important and overlooked. It's power system modeling.

I think this is a very difficult effort, which would benefit greatly from better standardization of processes and sources and ways of improving the quality of the models, and I liken this to, you know, ignoring this is like building a skyscraper on swampy ground. The model qualities aren't adequate at this point.

The fourth item that I want to raise up here is testing and fidelity. This is mentioned in the NOPR, and, I think, appropriately so, and this is a broader issue than just software module testing, although that's possible -- or part of it.

There is a problem of putting together test problems and expected results and testing the fidelity of the whole business processes, the fidelity of the modeling systems to the actual power systems.

There is a lot of work here that is in its infancy, currently. This is an area that can be phased in where it's not quite as urgent to get it completed.

And the fifth item is software security, and I think everybody agrees on that one. It's important to list it. It tends to be kind of separable from the rest. Thank you very much.

MS. SILVERSTEIN: Thank you. Mr. Michor, and, Mr. Rostanovic, if you're doing slides, you might want to get up there and get your stuff ready while we're all looking at Mr. Michor.

MR. MICHOR: I'd like to first of all talk about the software standardization, but it's more on the data standardization. I think that's one of most important keys.

We need data to be able to be flowed between the markets, but not only that, we need it to flow within the markets, all with the same characteristics and attributes. That was mentioned this morning, and I think that's a very strong point.

All players of the markets must reap the rewards of these standards through reduced cost of software implementation and software replacement. As we move on, there will be players in the market that will change. We have to be assured that once we change, we can quickly change the software suppliers, or we can quickly change the implementation process itself.

The business process needs to be standardized, too. Processes between the parties must be standardized to

allow a better understanding of the markets, in general.

Right now, at this moment in time, there is not an understanding of the markets themselves, and we saw that in some of the meetings yesterday; we saw that in basically any meeting that's around right now.

In order to communicate between the players, they must understand how to interact. There has to be a common transport mechanism. Everyone has to be trained, and by creating a standard, you will be able to create an easier way to train people.

One of the other issues that was brought up was how to be able to train the markets, how to be able to train the players, and by creating a common standard, it makes it easier to deal with.

The standards must be flexible and use mainstream technologies. We can't have it owned by a single vendor; it has to be nonproprietary. It has to be public; it has to be public so that not only the vendors, all vendors can build off it, but everybody understands it.

The language must have multi-vendor support, not only from the vendors that offer it to the companies or the RTOs, but also from the vendor side, too. The vendors must be able to go to their vendors and be able to choose the best solution for that.

The standard must be flexible to be updated

completely without redeveloping the product. That is one of the issues we have today, is that every single time you want to change your standards, you have to take a look at the product, but you basically have to redevelop it.

The data content and structure should be human-readable. This will allow for easy testing and troubleshooting.

The standard should stress auditability. The data must be easy to audit and report. Once again, in the meeting yesterday that was one of the main points that was brought out, was that the data at this moment in time is not easy to audit.

The standards should stress the reduction of barriers to market entry. It has to be low-cost to implement for the parties, and the ability to be used by the players and the vendors, big and small. By allowing the smaller vendors access to these standards, they will be able to get themselves into the niche markets.

Ability to adapt to new needs as the market evolves: We're still pioneering these markets. We have to create these standards so that we can utilize these standards later on, and not throw them away.

The standard in the data formats, as I said, should be publicly developed and owned. Publicly developed means exactly what we talked about this morning, and the

processes around that.

Speed to implementation: There needs to be -- we need to kick-start this industry today. The longer this process takes, the more risks and the more costs there are to the market as a whole.

The parties are investing now -- parties are investing now, and parties are investing soon in the future. It's not -- they are not going to be investing three years from now; they are going to be investing six months from now, a year from now.

There needs to be solutions today, and we need to reduce the costs of that structure for tomorrow.

In essence, time, short timeframes are needed at this moment in time.

MS. SILVERSTEIN: Could we have the feed from the computer, please?

MR. RISTANOVIC: I will try just briefly to give you feedback or opinion from outside as a vendor about scope and goals. Somehow the slides that I have are kind of good to have after what we heard this morning, because my feeling was that it was much broader scope discussion than what we originally thought when we made the first time, comment about standardization.

So, from our perspective -- I would like the slides here, too, if I can.

(Pause.)

Okay, now it's good.

MS. SILVERSTEIN: Get closer to the microphone.

MR. RISTANOVIC: Yes.

We first have to accept a couple of facts that what was in the past resolved by OASIS, E-tagging, scheduling, electronic scheduling, was addressed today. It's addressed by SMD.

Similar problems are solved in a different way with large RTOs which are quite similar to what used to be traditionally EMS. And I remember the original discussion of centralized versus distributive in the power exchange and so on, and good or bad, we ended up with centralized, and I still remember some of the filings by PJM. They said, oh, we don't do anything new; we are doing what was done for 30 years ago, and I completely agree with that.

But still yet, cost and prices for building these systems are ten times or more higher than traditional EMS systems, and there must be an explanation for that.

And FERC addressed one part of the problem by defining SMD, because in the past, it was very high cost for these individual RTOs to come up with market design. It's a lot of work, a lot of different opinions, and that cost component is either removed or significantly reduced.

The important component in the high cost of this

system should be close to price of traditional EMS systems, is that all of them are built on top of proprietary technology, which, at the end, results in very high customization and very high cost of startup, and then in the long-range, you have high cost of maintenance and adaptation to changes that will definitely come.

So, when we originally think about proposing some changes, we are thinking specifically about narrow scope where we try to attack one layer of that high cost of implementation, and that's why I have these four goals: To reduce all startup costs and implementation schedule for RTOs and ISOs, so do it cheaper, do it faster.

The second goal would be to reduce long-term maintenance and the ultimate cost of RTO and ISOs -- again, it's in every item here that I am saying RTOs, ISOs. I'm not saying market participants or over-the-counter trading. It's very specific, narrow scope that is addressed by SMD.

The other important goal would be long-term protection of investment in RTOs and ISOs. In other words, if you do what is proposed here, when it comes time to change, you don't have to throw the whole system away and buy a new one; you can incrementally change, piece-by-piece. That's another important goal.

And the last, but not the least is to increase the quality of software solutions. If we don't open up

competition for some of the important pieces that are distributing a lot of money around, we will not get as high quality as we can get if we open that for competition.

So that's something that, from our perspective, would be a set of goals that kind of dictates the scope of work.

Now, once we set up these goals, the question is, what are the highest returns for investment that we can achieve if we follow these goals?

This is kind of priority order and I will start to disagree already with some of the previous presenters, because I like it that way, because that usually starts a good discussion.

We firmly believe that in order to reduce costs of implementation, we have to identify functional blocks, and a configuration of functional blocks has to follow the maturity of SMD, so if SMD addresses some areas better than others, those should be high priority for standardization.

We firmly believe that once we do that, we have to standardize data models, because data models are very important. I heard something this morning that really frightened me; that one group will do reliability and the other group will do market data.

SMD put together reliability and markets, and because SMD picked the most complex system that is very

close to network modeling and markets, this data had to work

together.   So if somebody enters something in marketing --

interface, that piece of information has to be understood by

technical software, by settlement, by building, by

everybody.

And if you have multiple groups standardizing all

these different pieces without coordination, without having

one central common model, then you have to build mapping

software in between and translate all the time.

And in addition to that, whenever you add

something new in one piece, you have to add at least three

or four other places, and that's expensive, and usually you

make mistakes when you do that, and that causes more

testing, and you start wasting time and that costs, too.

So we believe that common data modeling -- we

call it static -- system, an natural extension of CIM are

very important to achieve goals that I previously mentioned.

Definitely on the front end, we have a pretty

good idea what is going to come into the system as defined

in SMD, so we believe it's necessary to have standardization

of electronic upload and download templates for various

interactions of market participants and RTO systems, and

that's similar to the old OASIS system that we had before.

Now, once we define these three elements,

immediate next step would be to standardize data exchange

between standardized functional blocks, and we call that
dynamic extensions of CIM, because those input/output
interfaces have static components, which is kind of the
point, generating rates, whatever, and there is the dynamic
part, which is what is today's value to be the price and so
on.

In achieving software quality and maybe putting
to rest, discussion of is SUC really appropriate for energy
markets, we suggest to have benchmark tests, and I disagree
with Gordon here that it's difficult to do that.

In some areas, it's too short to do, and that
will encourage competition with the vendors, and I
identified two software components that are having kind of
difficult to interpret solutions, and one is security
constraint commitment, and the other one is FTR simultaneous
visibility testing.

For other elements that we can think about in
SMD, we can have pretty much good idea is the output good or
not? For SUC and FTR, unless you have two different pieces
to compare results, it's very difficult to conclude is the
solution good or not.

Based on yesterday's discussion, I just added
this line that we have to standardize data that we can
provide to market monitoring units. So archiving of all the
actions and activities in RTOs is very important, and then

to provide access of that data to market monitoring units, which are usually independent, but they have to have access to this data.

I put that -- the last in my slides, I think, is the lowest priority, and in that respect, I disagree with Jay. The reason being is that what is defined today to exchange between RTOs like real-data and modeling part is very well understood, and there are already standards and software solutions in place. So we can exchange, real-time information between RTOs, using ICCP and we can exchange modeling information using NERC data exchange format and CIM-XML.

For everything else, our opinion is that SMD did not address from the seams issues and from the business practice issues, in enough details, inter-RTO communication so we can start finalizing.

Now, just to support two points, it's very important --

MS. SILVERSTEIN: Your three minutes are up, so make it fast.

MR. RISTANOVIC: It's very important, how you define boundaries between functional blocks, and I just showed a diagram of the day-ahead market and real-time market, so if you say day-ahead and real-time market are blocks, in our opinion, that's too big, because you will

find in these diagrams, many functions that are repeating, so we have to have that in mind when defining functional blocks to minimize the number of applications.

And then on comments about plug-and-play, plug-and-play is not that high goal, if you have integration bus infrastructure in your system. If you don't have it, it's a high goal, so I would not rule it out as a long-term goal, because that can prevent some of the vendors in this much larger community of vendors, and we can come in and provide good platform that will support plug-and-play right away.

MS. SILVERSTEIN: Thank you. Mr. Ott and Mr. Watkins, if you want to go mess with the computer while Andy is talking, that would be great.

(Pause.)

MR. OTT: If we look at setting goals, first we have to look at why we're here. I think at least why I'm here is we need to develop a market or a system of markets. We know we're going going to have multiple markets in this area where it really reduces the cost for participants, market participants, to participate in these markets.

So that's really why we're looking at standardization, so that it makes it easier for them, whether it be a participant playing in a single market, just getting more access to vendors, and people who understand the markets because they are standardized, because right now

there's a shortage of knowledgeable consultants, if you will.

So I think that one of the goals we have is really providing, again, the capability for participants to, you know, participate in these markets with less cost, you know, and reduce their participation cost.

So the way, obviously, we do that, we standardize terminology and definition, which, again, the FERC NOPR is going a long way towards that.

I think where the RTOs can help is standardized participant interfaces between the RTO and the participants, both input data and output data, and really that's the common data portal type information that PDM and the MISO is doing is starting towards that.

I think the other level, though, is -- the difference between the gas and the electric industry has been, you know, the immense volume of data, the complexity of the analysis, especially in an allocational pricing market, that the participants have to be able to process.

One of the challenges of my own participants who come to me, you know, fairly regularly, is that it's very difficult for them to get the detailed power flow model from me into their systems, because there aren't great, easy interfaces that convert the data very rapidly. It's very difficult.

It would be great if I could put a day-ahead market case out every day that they could actually take and use to analyze their data. Participants tend to like to do that. The risk managers like to be able to process -- use their data models to look at future participation.

Right now in the industry, that's tough, simply because Jay had said, the power flow model data structures aren't that great. Now, EPRI, in the issuing of the CIM, and as we get the market part of the CIM -- and I think we'll go a long way towards getting there.

I think the other issue is really promote efficiency of interregional trading. Now, obviously, having common standards, you know, common formats, will help that, but the RTO to RTO data interfaces will promote that, because they will allow for more efficient management of seams, and that's the whole coordination issue, sharing of data, making those protocols happen in real time.

Then last, of course, is the standardization, sort of on an industry level, of the technical data exchange formats, the protocols, if you will, you know, security standards and things like that, which are really the more broad level, which I think we probably can take advantage of a lot of stuff that already exists that is not, if you will, electric utility industry-specific. Thank you.

MS. SILVERSTEIN: Thank you. Mr. Watkins?

MR. WATKINS: We lost our thing here, but that's all right, so you guys have handouts, so I'd like you to look at it, actually.

MS. SILVERSTEIN: Mr. Watkins's handout has C-SIC up in the corner, and it's labeled "An Infrastructure to Implement SMD."

MR. WATKINS: Yes, the first one looks like this.

(Pause.)

So, I had one presentation and it was really about how we build the system, but the first part of it really is the goals. So the first goal is that everyone has to talk, right?

So, it's what I put on my second page, which says we need data transparency and a common open system that allows all components to coherently talk to each other. And that diagram you see has really a data bus, which can be a whole bunch of data systems, but the main idea is that we really need something where everybody can talk, where the systems understand each other, whether it's plug-and-play or whether it's certain blocks you've defined to start on, and others you'll do later, or whether it's even just large-scale markets. They ned to talk, and they need to understand what they're saying.

So I think that's our goal, so the real reasons

for that are, I think, the following, or the things that we need to see happen: We need to optimize the market competition, and it's nice to have SMD, but unless you have a mechanism for working out the practical parts of SMD, you have nothing, right?

The idea is right now, you can gain advantage because you know how to work the system better, because it's hard to mine the data off everyone's OASIS. So, the idea of this is, it's transparent, data is transparent, so there's real, true market competition. So that's certainly one of our goals in this.

The other one is vendor competition. We really do not want to be dependent on a single vendor, and we want to define data standards and data protocols and transport mechanisms and ways of talking, so that a vendor could come in and walk into a piece of your internal or your external system.

They could represent the market systems that talk to the ITP or ISO or RTO, whatever we call it now, or internally, between the settlement parts, the forecasting, between the markets systems, whatever happens within an RTO, ideally, we might not.

We also need to have something that -- one of the primary goals we have also in this with market -- excuse me -- with data transparency, you can also manage reliability.

Today, we have an issue at times, because there are too many schedules, and if you want to do something real-time, you effectively can't cut schedules. You have to do cuts between controllers and so on, and do things to manage reliability, and with open data transparency, the whole thing is before you and you can accomplish whatever actions you need between all the entities. That's a needed goal.

Another -- and these are not new; everyone has said these, actually, up to now, but you need something that's agile. It needs to be able to respond to changes in technology, and also changes in business rules. People are going to come up with new ideas for running the market that work better and that will be more efficient and meet needs in a new way, and there need to be systems that can actually respond to that in an agile way.

So, it needs to be constructed in such a way so you can change it relatively easy. The only final thing I think I'd offer in this is that I think that this is a very hard thing to do when everyone is headed a different direction, but we're heading right now, I think, into a unique time in history where, instead of a thousand entities, all trying to do this, the control areas, right, the primary bastion of reliability, we're narrowing it down to a select group of entities that will operate the

transmission grid, so here's an opportunity that we don't have to run among so many, and we're also creating new systems and new markets and new standardization.

And if we don't take advantage of this at this time in history to put these together and put together at technology that makes all of these talk effectively, the shame on us. That's all I have to say.

MS. SILVERSTEIN: And on the note of shame on us, we're going back to Gordon to talk about the process.

MR. van WELIE: That's okay, we'll work with paper. On my second set of slides, we're looking now at Panel III, Slide 3, which has also got the number, 11, on it.

So there are two slides I wanted to speak to, the first you've seen already, so I won't dwell on it, but from a process point of view, there are two things that I want to make the point on:

The first is, having defined the responsibilities, we've got to figure out some of the details of how we're going to interact between these responsible organizations. And that's something which is a near-term goal that needs to be achieved, I think, within the next three months or so.

That's something that's underway at the moment, obviously, but it's also something that needs to be

finalized. Obviously at a working group level, there has to
be a high degree of coordination, and that's a process that
needs to be worked out as well.

What I'd like to do is to move to the second
slide, which is a fairly busy slide. The title is Standard-
Setting: A Conceptual Plan for Review and Discussion.

And I've taken a great liberty here of just kind
of starting a brainstorming process, I guess is the way I
would define this, which perhaps may give us something to
hang our hat on. What I wouldn't want to fixate too much on
is the exact content in some of what I have put in here. I
use it merely for illustration purposes.

The first point that I want to make is that the
implementation process is going to lag the standardization
process, and the reason for that is that once you've come up
with a standard, vendors have to go and implement that
standard. There's a product life cycle that occurs in any
vendor organization.

And then, of course, the implementation
organizations, in the form of ISOs, for example, will have
to implement those products as part of their systems. So I
think one needs to be cautious about expectations with
respect to when one gets standards defined, and when one
actually sees them implemented within systems, working on a
day-to-day basis.

On the very top line, which I call the standardization process, what I'm suggesting is that by the end of this year, we finalize the operational structure, for example, the NAESB-NERC-ISO-RTO split that I commented on in the earlier discussion.

We're expecting that in the first quarter of next year, FERC will come out with the ASMD rulemaking, and within that first quarter then, those organizations really should present their project plans with their scope defined as to what they are going to be working on.

And then the next step thereafter, of course, is that any good project plan, if it's going to be successful, needs to eat the apple a bite at a time, because if you don't do that, you don't get sufficient focus in terms of achieving a goal. And what I did was rather arbitrary. I basically broke up the standard-setting into three what I call bite-sized chunks.

On those three tasks, basically what I have done is to use the principle of trying to do the easy things first, and in Phase I, I've really said that the wholesale energy markets rules and operating procedures, any CIM extension work that needs to be done, and what I called industry-related data change standards, including those data interchange standards that would carry data into and out of the RTO.

The next phase would be transaction scheduling and rules, and the interface, ISO-RTO-related data interchange standards, so the kinds of standards that one -- that Petar was referring to in terms of the various software components.

You could tackle it in this phase, and then, of course, because there is a very immature starting point here, to the extent that we can define bilateral market standards, those would be things that you would define in that second phase as well.

I said the first deliverable could be achieved around, let's say, the third quarter of 2003.

After FERC has given its blessing, there's going to have to be some review here of the plans to make sure that there is some synchronization and that there's no overlap.

And then the final piece, the piece that is going to be hardest I think, is where there's the least maturity, and that's in the ancillary services, the reserve markets capacity, resource adequacy and so forth. And that's still a work in progress. So you actually naturally leave that out till the end.

In the final column of that block at the bottom there, I've used as an example who could take the lead in these various areas.

The final point I ant to make here is that if one looks at the implementation process underneath the standardization process, one has to recognize that in several ISOs there are already implementations underway. It's not realistic to expect them to suddenly change course and implement a new standard that comes out let's say in the middle or the end of 2003 or the beginning of 2004. They will have to pick up those standards in due course as they invest in replacing some of the components in the long term.

What you're hoping to catch by putting standards in place as quickly as possible is to minimize the cost of entry and the cost of implementation of all those new ISOs

and RTOs, YTPs, that will be starting up there in the future.

Thank you.

MS. SILVERSTEIN: Thank you. Mr. Britton?
You're working without technology. Can we get the feed from the computer please? Or not?

(Pause.)

Mr. Britton, why don't you just start talking and we'll see if the technology catches up with you?

MR. BRITTON: Sorry for the delay. Are we up? Can we have the computer feed? Yes. Good. Okay. I'm relieved to see the graphics up, because I didn't have paper backup.

I first of all want to show on this slide, there's a left-hand box that's labeled Business Standards Process and a big right-hand box that's Software Standards Process. I'm talking software standards process here, and all of my comments are going to be in that direction.

The business standards process of course passes the information, the detailed objectives, into the software standards process. That's essential.

I think one thing I'd like to put on the table first of all is that the divisions of responsibility that make sense in the business standards side of things don't necessarily make that much sense in the software standards

side of things. So you can't just do a division of
responsibility based on the business standards logic and
expect it to work well on the software standards side. I
won't go into the reasons in great depth there, but if
anybody wants to question, I'm happy to give more examples.

On the right-hand side, I sketched out -- this is
supposed to be symbolic of a process that would be carried
out in a software standards group. And what I wanted to
illustrate is two main things: On the top there's a line
that is carried out by people with business domain
expertise. These are people who really understand what
those business processes were trying to say and know how to
tell the group what they meant and how to do the modeling
side of the business.

And then there's another track that's the
computing domain expertise, and they're the ones that
understand things like the EDM, the electronic data
mechanism, the security mechanisms and those sorts of
computing technology issues.

And they go back and forth. Those aren't really
separable processes. The problem statement has to be
balanced against the limits of technology which tightens the
understanding of scope, which gets you into modeling process
issues, and you gradually tighten things down.

If you want a lot of parties with a lot of

different expertise to be able to carry out dialogues with one another in this process in order to make it work effectively -- that's that point of this slide. I'm not trying to teach everybody here about software standards processes in detail.

I want you to come away with the idea that this process will not work as efficiently if it's being carried out in four or five separate forums that meet separately and have to try to liaise with one another over the telephone and in separate organizations. If we can get everything going on in one room, it's going to work a lot better.

I'll give one little example just to clarify this. At various points in this business standards process that would seem to be widely separate, you're going to deal with things like information about generating units. And a part of that process is figuring out how to identify which generating unit you're talking about.

Now the which generating unit you're talking about can be a surprisingly difficult discussion, but it's going to occur over and over and over again, and you obviously want to decide it once and use it every time you talk about any aspect of generator data. So you really can't divide up that problem very effectively.

Now what we've got now on this next slide, this is my impression, so forgive me if I've gotten something a

little bit wrong, because I'm not exactly up on all of the
aspects, but I've been trying to hard to understand what's
going on here. And we've got some wonderful organizations
involved: NERC, NAESB, EPRI. And I could have added more.
FERC, IEC and some other things.

In the business process side, we have what I have
diagramed here as liaison challenges. I think they're
serious challenges. They might be workable in various
places, but my real concern is that I see each of these
groups conducting an exercise in how to develop the
software, and that's the process that I was just talking
about, and I see it going on in too many different places,
and this is very undesirable.

I mean, we'll get something done, but we'll get
less done, and it will have less consistency. And if we can
possibly avoid this, we should.

In the agenda, this diagram was attached, which I
hope I have faithfully copied, and I took it to be a
suggestion for discussion about how to divide up authority
because of the red, blue and green labels on the arrow. And
the question, will there be seams issues if these software
standards are not developed by the same body?

I don't know whether "seams issue" is the right
term, because "seams issue" has a marketplace connotation.
There will be software inconsistency issues. Those red

arrows that interact have generator data in them and the blue arrows that interact have generator data in them. And so, yes, it's a problem if there are separate bodies dealing with those.

From the point of view of a vendor especially, and the point of view of myself looking at having to participate in this process. I shouldn't say having to. I love this. This is just wonderful. Wonderful work. But I would rather not be going every month to four different organizations meeting in four different cities and then spending the time back in the office talking on the telephone with all of the other parties trying to coordinate it. I'm an architect, and I'd like to do some architecture once in a while.

I would like to have one organization. And I especially show here the software standards side, and I realize there are important interactions out of this body. The software development body doesn't necessarily have to be the approval body. Organizations like NAESB that have approval processes, those can be valuable.

And to the extent that that SMD software standards effort uses a technology like the CIM that is in place and under the care of a group like EPRI, it's very logical to establish a tight relationship there and to either incorporate somehow an EPRI working group into the

single body, work out some mechanism there, but let's get it going on in one location under one auspices. Let's not create any artificial difficulties in this area.

That's the end of my pictures, but I wanted to verbally add two other comments. One is let's be careful when we're designing the technology -- or designing the process -- not to preordain the technology. Two examples that come to mind are XML and CIM. Everybody knows that those are very, very likely to become part of the solution in one way or the other, but they are solution mechanisms. Let's get a process going and let those things emerge from the process.

The second thing that I thought was very important on Gordon's last slide, he started commenting on practical phasing in of standards, let's be thinking about from the technical standpoint, we need to design standards that can be phased in.

There are technical challenges around this, and it's appropriate to have a standards design practice to allow the standards to evolve and everything. Let's take advantage of it on the business organization side so that we allow ourselves to schedule standards at a rate that's right for the organizations that need to take up these standards and that's right from the development side that allows us to do good work when we generate standards. Because there's a

lot of prospective work to do in this area. It's more than
will fit in let's say the next six months or some timetable
that would line up with the strict 2004 implementation
schedule.

And I think that about does it. Thank you.

MR. MICHOR: I want to agree with Jay and Gordon
on a centralized form and one organization. I think that's
the only way to go to get things done, to get things
organized, to be assured that the process works properly.

I also want to agree with both of them on phasing
it. Because of what I mention at the very end of my
discussion is, we have to react on things now. If we phase
in, then we can complete processes or parts of processes
that need to be done now. If we wait three years, then a
lot of things will change. You start on a process right
now, things will change. If we phase these in and implement
them and then move on to the next step, then that's probably
the best way to go.

I want to stress the point that there are
standards out there again that can be used for this, be it
the standards that were talked about today or other
standards, there are standards that can kick-start this so
that we can start working on things a lot quicker.

I don't think it's been really mentioned in this
way today, and I really want to stress the point that the

three-year timetable to get things done I don't really think will work. I again think that we have to work on things now. The standards that are out there are strong. They can adapt, either the standards that are in this market or other markets. They can adapt, and they can solve some of the problems that are there, and we can work off them afterwards.

Just to give an example of, once again, at my last meeting I talked about the Ontario standard. We just completed, within three weeks, we completed a pilot. We deal on the retail side at Ontario. We took that standard, and within three man-weeks, we were able to at least deal with an ISO's real-time five-minute pricing and put it through without any code changes.

So those are the type of things that you should really look at. You have to figure out ways to be able to kick-start the whole process. For us to sit here and spend years on different pieces, I don't think the public is going to really like that too much. I think there's a lot of issues in the system today.

That's obviously my personal feeling, but the other side of it is, as in phasing in, the idea of pilots. Bringing pilots in, having different parties work on pilots. How that works -- I'm not saying there doesn't have to be that centralized forum and centralized organization process.

But there must be another way to be able to bring that in
and to be able to fast track that.

If organizations want to take it upon themselves
and provide pilots and go back to the organization and show
how the pilots work to speed up the process, I think they
should be able to do that. So that's just another angle on
the process itself.

Everything else that I was going to say was
actually mentioned by Jay and Gordon, so I'm not going to
mention it again.

MS. SILVERSTEIN: We love when that happens. Mr.
Ristanovic?

MR. RISTANOVIC: It's very difficult to talk
about appropriate process when we don't have argument about
the scope and even about goals. So you have to start from
some assumptions. What is very obvious is we cannot have
with some reasonable limited scope multiple processes
running around. It doesn't make sense. It's going to be
too much interaction and too much overlaps.

That's why I believe it's very important to agree
about scope that is feasible and achievable. I always
thought that SMD will address both market design, business
practice and rules. And in some areas, SMD even goes deeper
than business practices and rules. And we just love to
follow this process when FERC puts onto Web site, we make

comments about PC that we think we can contribute.

If there's a feeling that these business practices and rules should be further refined by some other party, that's fine. But I agree with Jay, we as vendors probably should not participate in that part. We will nevertheless, if business practices and rules are not in place in enough detail or level of completeness for us to standardize the software, we cannot start to standardize any software because all the inputs are not in place.

Saying that, I think that there are parts in SMD that are at enough level of detail that standardization of software can start. We have to make sure that that standardization effort is done by people who have in-depth knowledge, especially if we talk about this narrow scope of inter-RTO and market participant interaction with RTOs.

And we should not forget that there are so many things that are already built around -- I just saw last night a press release from PJM that they provided to EPRI, their market definition of their data. So I believe other RTOs I saw have a lot in place that can be used as a starting point.

What we should not forget in this process is that different entities have different starting positions, and they have different priorities and different dynamics to follow. Existing RTOs who are let's say market trials or

implementing systems, running systems, may have different priorities than new RTOs that are just starting. And it should be carefully watched by the Commission what we define as priority.

I'm concerned that if existing RTOs have dominant role in what are the priorities for the process that we may not get the biggest possible return of investment in the software standardization process.

From the point of view to do this, I'm scared to say after this morning, I had on my slides some proposal how to do this, but there are more people who want to do this than there is actual work, which is sometimes good, sometimes bad.

From our vendor perspective, if we define some limited reasonable scope, this can be done very quickly. I'm not going to say how quickly, because it's not going to sound right. But when we talk about it among ourselves, we just cannot say how much we are restrained not to jump in and just do it.

Amount of work and benefits that can be done, there is a big discrepancy. Very small amount of work for very few things that are very well defined SMD, we can achieve a lot quickly if it is run as a project from one enterprise. That's my last point about this.

MS. SILVERSTEIN: Mr. Watkins is feeling

technologically lucky.

MR. WATKINS: Yes. But he's going to speak while I'm feeling how lucky I am.

MS. SILVERSTEIN: Okay, Andy, go for it.

MR. OTT: Talking about the process, I think if we look at the process that is going to get this done, I think really we look at accountability. If you look back at the development of CIM over the past whatever, 10, 15 years and the actual progress that was made, I think if you had to justify standardization on that, you would have problems.

I think the biggest reason there was it was a consortium of voluntary group of vendors got together and said we're going to build the CIM because it's a good thing to do for the industry. But there really was no accountability or sense of urgency incentive, if you will.

So I think one issue of process would be I think a body or a group of organizations or whatever needs accountability. In other words, you have this part, as we were talking about this morning, you have this part of it to do.

I think if you look at the concept of, for instance, PJM and the MISO are looking at, standardizing across a large area the data formats. The concept of participant to RTO interfaces could be expanded to work inside the ISO RTO meetings that Gordon had talked about.

The concepts of assigning that role, if you will, to make that a common structure and make it more than it is today I think is really something that could be tangibly done, will give you a high, if you will, value. In other words, standardization could become this large process that returns a lot of value over time. But what you're looking for I believe is the short-term high value. And I think the short-term high value is really those standard data formats to help move sort of support if you will the SMD.

I think the other area, though, is really the data protocols or what I'll call the CIM extension, the EPRI effort. I think that again will get the participants the biggest bang for the buck. I think again the initiative to move that forward and the incentive to move that forward needs to be given to a group.

And then obviously the NAESB and the issue of moving forward what I'll call the industry type standards, the more broad I think that accountability can be assigned. Because you have a group sitting there ready to go. So I think really it just becomes a matter of choosing -- again, it can't be a group of people competing. It's just not going to go. It has to be somebody that says, okay, I'm accountable and I will do this. Liaisons obviously need to be created. If we're creating a common portal, we have to adhere to certain security standards, and that has to be

liaised I'm assuming with a group like NAESB or whatever.

Obviously there's reliability standards with NERC that have to be dealt with. But the point is, each group is accountable for something, and the liaisons are fairly well defined.

MR. WATKINS: So let's try technology. Can you turn it to the computer? Ah, just as I suspected. So I'm going to just enlarge this so you can read it. Get rid of that, enlarge this as much as I can. I don't want to do that because you can't see it on the screen.

This is about process, and I'm going to, since Gordon is a CEO, he can do all the technical stuff with lots of writing. I'm going to be just a worker guy and put a real high level summary on the screen. And you might want to follow what's on your sheet.

You know, the basic process that has to happen here is you have to have a market design first, something defining that. And you guys have set the gauntlet on that, right? But the big part, a huge part of this is given that SMD, if everyone took their piece of it, you would have five or six or seven definitions of how you worked out each component of the SMD, and that's a problem, because then you don't have matching common standards and even common data definitions.

So you need to work out use cases, right, things

that show entities and they show lines between them, and you
figure out what data passes between those, and those need to
be consistent between all the parties. You've got to do
that. So market design is there. Then someone has to do
market rules. I'm going to get to that later, because I
think that's what's really important. So you need rules and
processes.

At that point, this is where you can work on CIM
and your EBXMLs and all your data protocols and standards
and whether you have private networks or public networks or
what degree of security you put on it. After you know what
you've got there and how secure that needs to be and how
reliable it is, then you define your things like CIM.

So my first suggestion is if you're looking at
like the EPRI part, I think the EPRI CIM part is really
important, but it comes after you've defined all your use
cases for your market design, which isn't there yet.

So then after that, we have the software
functions. And those are kind of in parallel, but you have
a whole bunch of functions, right? And somehow I think you
have to define blocks of functions. And from those blocks,
they're an entity in your relationship diagrams, right? And
those blocks have to pass data, and software vendors will
design what they have for designs to fit in there.

So what's inside the block? Anything you want,

as long as it does what these guys say. But how you
interface has to be standardized. And I would suggest that
really needs to be internal and external and you use the
80/20 rule, right? Do what you can accomplish 80 percent of
your progress for 20 percent of the effort. And that really
does work that way, as we all know from other examples.

You really have to implement and this isn't minor. Think of four or five parties implementing all these parts, especially when you hvae to have data validation, you're going to have to have archivals of stuff, and you really need to do effective market monitoring, reliability monitoring, and so on.

But I believe those are the high level process steps that have to go on. So given those processes, I'm going to ask a few questions if I know how to turn my thing here. I do, I do. Mouse, okay. This is the problem I've had. I'm going to go back again just a little bit further.

This diagram we have here, this is not rocket science, in fact, this isn't even the issue. This is a databus that says we're going to talk in a common way, whatever we do, whatever protocols we have, and we're going to have some blocks of functions. And we're also going to have all these entities from transmission owners to market participants to control areas, generators, etc., I'll have to interface. So this isn't anything new.

So I'm not going to spend any time here. I'm just going to say this is what has to be accomplished in the end. My problem was a lot of the stuff we've done is that we do a lot of stuff and they aren't necessarily coordinated and furthermore most of us go to these groups and committees like I chair a group called SEASICK, and that's a really,

it's got a lot of scope in it but I am also a full time manager of a large group of people in operations at Bonneville. And that's kind of important too, right. And that's how most of our committees work. We have committees that are staffed by people that all have other jobs.

The Chair of NAESB, right, has another job I think, I presume. He said so anyway. So my thought was how do you get to something where people own, own the product and somehow you create a business model. This isn't about software or IT principles, it's about how do you create a self-incentivized process or state or organization that has incentives to get the job done, and will do whatever's necessary to get it done the way it needs to be gotten done, given the standards.

So these are my questions. Who is responsible for implementing these? Who has to build the stuff that makes the stuff? Second question is, who bears the consequences of performance of these systems. Who is it that's going to have to answer to somebody if it doesn't work right. Well, I'm not going to go to the answer yet.

Who can best be impartial? We all know we have interests. In fact, today even with fairly impartial people, we've heard a lot of partial answers, right? And I want you to know that I'm completely impartial in every respect.

(Laughter.)

And this last question's kind of an interesting one too and I've had a lot of conversations with people, in fact most of the people at this table I've had chats with and a lot of you out there. And the question is who can be best compelled to do this, and actually this came from talking with Dick O'Neil. The answer to all of those, surprise, I seem kind of dumb, but maybe I am. I think the answer to these really is the ISOs and the ITPs, the answer to all these questions are those. And that doesn't mean they're the sole proponent because there are lots of stakeholders in this. Everybody in this room is here because we're a stakeholder and we have lots of different interests.

But my suggestion is, is that you need to orient what you're doing for having effective, performance-oriented output at the people that own the problem, and they've got to work out a way of solving that. So this is my premise, and it's gotten there through a hard, lots and lots of discussions with people.

The reason, from Dick's conversation it came out, I was asking how would this get done, would the order do something, etc., and he said, well, all eyes are on these ITPs. That's what the focus of the standard market design and a lot of FERC's actions with the electric industry right

now, and that's where they're focusing effort.

So now I'm going back to this diagram. I talked about the left side and the right side now I think is important and this is going to shake what I've been hearing all morning, but I intend to shake it, and then we'll end up where we end up. The market design, there's no doubt in my mind that market design and the inferences of meaning of market design are clearly in FERC's bailiwick, period. No question about that.

But I am going to suggest that when we try to work out a common, a singular effort, not multiple efforts but a singular effort of working on what that means, transferring that into rules and processes, your business processes which is a whole bunch of gut level work on that from naming generators to just stuff; what time zone you're in, and what standards you're using for that.

I am going to suggest the ones that should run that, and I'm going to go into a model in a few minutes, but the ones that should run that really are primarily the ISOs and ITPs. And I'm suggesting they should get together and they should be compelled to put a consortium together to do this.

Now NAESB is really important becuase what I'm suggesting -- and we'll talk about it -- is that what their product is would really need to go -- hopefully they would

have a stakeholder process that was open, but after that you really need to go through some kind of codification, right. So you really need NAESB out there and you need some of these other groups that are out there like ESEs and OSEs becuase there's a lot of experience and a lot of good expertise to comment on these.

But I would suggest that if you want to do critical development, you use the ISOs in a collaborative effort, you give your stuff to NAESB and let it run through the process but it should be well-cooked. They should have covered most of the controversies, and then of course it's important that FERC likes it in the end.

So you've seen this slide before but I changed it so it wouldn't look the same as the last time you saw it. And it's actually from several conversations I've had with people, including Gary Michor, which I changed the circles on this. I don't care how this happens, I really don't. But this is just a model that I think we should consider.

Let's just call this a consortium. This is a company. This is whatever. It could be just a group that has a mission and a purpose in life chartered by the CEOs of the ISOs and ITPs, right, which there happens to be a group meeting and they're working on how they work together. And in that, you've got a charter.

Now one thing that's really clear from our

discussions so far is that really the bulk of the highest

knowledge of all this stuff -- not that they always share it

-- but the bulk of the expert knowledge is really held in

the vendors. And the expert knowledge for a particular area

are held in the PJMs and the New Englands and New Yorks and

in California and increasingly in the northwest. So my

suggestion is -- and I've also talked to a lot of vendors, a

lot of vendors -- and from high levels to low levels, what

they've said if there was an effort where we could actually

participate in something that would create standards that

would mean we only have to write software once, right, and

it fits in these other places with minor modifications, we'd

be happy to contribute workload to that. We would

contribute people to this who'd actually work on this full

time, because the cost-savings in the long-term are

tremendous. There is some risk because there's more

competition, so if you kind of own pieces of the market, you

might lose pieces, don't know.

So my thought is, this is something that's got to

be run by an objective party which is the ITPs. They've got

to do the project management, they've got to do the process

management and audit what's going on with it and watch it

and direct it in a non-bias way. They've got to pull all

the stakeholders in, which are market participants and

others and of course the vendors. And what they should be

is a performance-driven outfit to create a system.

And my belief is that's the only way you could do something quickly. It's a devoted effort, it's a disciplined and managed effort, and ideally it has sustainability. You set up something that's going to continue to respond to things.

And down here it's really important on the lower part, you see the regulators and the standards groups down there, they are actively a part of this. You always are going to be talking back and forth. And the idea of a regulator sitting in on a group like this, like they talked about in Ontario, is probably an excellent idea. They're not driving it, they're not the primary workers but you keep the liaisons you need so that you do good work, and so when you go through the NAESB process, it makes sense and works.

So I think we need to do a model like this. This doesn't mean everyone has to bring everything to the table, but it means that everyone has to bring everything they need to come up with the best practice and develop something that actually works, and I believe it could be done very quickly and I suspect it would go through NAESB pretty quickly because you worked out the issues ahead.

So the last thing, and this is my proposal, and you can argue with me and I don't mind. You can throw me out of the room and I don't mind that either. I think that

there have to be a couple things here. I think the
ITPs/ISOs are probably motivated to do something like this
but probably not enough, right? So my suspicion is that
somewhere in here, you need FERC, and I think you probably
need FERC to say ITPs -- and I'm going to get in trouble
with somebody, I'm sure -- but ITPs, ISOs, RTO west,
whatever, you need to work together. We're giving you a
mandate to create this work, to do this work of creating
business processes and stuff out of this. The place for
protocols. You don't have to do it all. You just need to
manage it, put it together, work with EPRI to get CIM, which
we also maybe do the NAESB thing. FERC says you need to do
this, and the ISO and ITPs really need to establish I think
something to do it commonly. I think it's the optimal way
to do it. And of course NAESB continues to have a high role
in this. And I forgot somebody here that's really important
and that is NERC.

Because all of this, as Gordon pointed out in his
slide, where you saw these little circles between them,
there's a high amount of working back and forth with NERC
because there's a lot of reliability issues in every piece
of these schedulings and how we dispatch the system. So
that's my case.

MS. SILVERSTEIN: Thank you. Okay, just to show
that you don't get to be a slacker when you're the MC, I

took notes and I'm going to give you my version of the summary of what I've heard so far. And I'm just going to yell. Can you hear me?

This is what I heard as to goals. First is markets that reduce costs for all players. This means we need to increase standardization and improve efficiency. The second is promoting efficiency of internal and inter-regional trading. That would be internal to regions and across regions.

The third is market transparency. We're going back to our process lesson which was be clear about what your goals are when you start the endeavor so I thought I'd go fairly high level. We need market transparency for better competition, better reliability and for market monitoring, which is actually not just about good markets but about protecting customers.

We need vendor competition for innovation and to avoid becoming captives of any vendor.

And we need to use this process to help us better understand markets and to improve our understanding of power systems.

Did I miss anything?

MR. BRITTON: Fidelity of the systems.

MS. SILVERSTEIN: I thought that was implicit on understanding. Will that work? Well, we'll write it down.

MR. BRITTON: Quality measuring and testing I think is important.

MS. SILVERSTEIN: Okay, we're going to leave some nouns out of here and keep going but you've got those points in our notes.

The second thing we heard talk about was features and you all didn't call it that, but that's what I understood them to be. And my understanding of the features you want in this process or products include flexibility of standards as the market evolves, flexibility also to allow regional flexibility and variation. You need this to be updateable and adaptable. Feel free to nod as I go through this, or to say whoa, that's wrong. Okay.

We need it to be publicly developed and owned. And the other term you all use for that is open systems. We need to be fast to implement. Some of you want it to be urgent in fact I think. We need it human readable and easy to audit, so we don't get too smart and ahead of ourselves and screw it up by being too fancy. Okay, that would be me in a non-technical way.

We need it to leverage existing standards and investments that have already been made in electric and other industries in terms of protocols and systems and software. We need it to integrate security from the ground up. We need it to improve the quality of electric system

software overall. And we need it to have clear roles and accountability. And that's as much about the process as the software product.

Did I get all those right? Did I miss anything?

(No response.)

MS. SILVERSTEIN: Okay, we're on a roll.

(Pause.)

MS. SILVERSTEIN: This is probably why Rosie O'Donnell got a new job.

(Laughter.)

MS. SILVERSTEIN: We made her an offer but I think she's making more money doing whatever it is that she's done.

On process, these are the things I heard that you all want. Sound project management and coordination. You want all stakeholders involved. You want a high level of architecture which starts with goals and reqiurements at the top. You need data interchange protocols and data modeling early. You want to integrate business and electric expertise with software expertise. You don't wnat to preordain the technology.

Phasing in is good for both the development of the business and market decisions, and also to assure quality software and implementation.

You want to assign and determine the roles and

responsibilities with no artificial overlap or confusion or early resolution is the other thing I get from this, when it becomes apparent that you have an overlap building, and you want some sort of centralized form for implementation.

Did I miss anything here?

(No response.)

MS. SILVERSTEIN: Okay, Don Watkins has a proposal. It's not as fancy when I do it as when he did it. But the version that Don wants is we start with the function of market design, that's FERC, market processes and rules, data protocols and definitions, software and operational systems and this is done by the sequence with the ISO and the ITP consortium at the top, and coordinating with everybody else, and I remembered about NERC and put them in with little connecting lines. And this all sort of keeps looping back to FERC.

In fact, I was going to put Gordon's up next because it was a lot fancier and went into a lot more of the details. So let's start with you guys talking back and telling me who's got heartburn with something that looks like this in terms of a set of responsibilities and accountabilities.

Yes, sir, in the back? And you have to say your name before you say what's wrong. And don't forget to bring that business card for our Court Reporter.

MR. TALLMAN: I'm Bob Tong with LG&E Energy, and first off I share the concern expressed by the gentleman from Seattle this morning about this slide. I think the NERC and NAESB report is okay. I'm a little concerned about the RTO because to the extent the RTO has some intellectual property rights in any business method manuals, whatever, how realistic is it to expect them to be impartial members of a standard setting body?

I also have another question for this panel, if that's okay.

MS. SILVERSTEIN: Well, let's start with that question, and we're going to start by asking Andy Ott of PJM a question. Andy, we have two members of the ISO/RTO community who think that maybe three, listening to other folks who think these should be open standards and open architecture and non-proprietary, and yet PJM is sticking copyrights and saying all this stuff is PJM's property, intellectual property. You guys willing to back off on that?

MR. OTT: I think the issue of the proprietary nature, if you will, the copyrighting, etc., I think is mostly driven by trying to recover, if you will, the cost of implementation back to our members. I think the issue of obviously the LMP model is not proprietary to us, and I think obviously we would back off on something like that.

I think the actual creation of the documentation, etc., etc., I think if our membership supported opening that up and saying it's more or less goes out to the world, I think we would support that. Is that the answer -- I mean, is that enough answer?

MS. SILVERSTEIN: Ask if it makes him happy?

MR. TALLMAN: I understand where Andy's coming from. I don't hvae any problem with cost recovery. But I just think in this model, to the extent the ISO/RTO is participating with NAESB and NERC, you know, do they need a separate parallel line of report, as this chart shows.

You know, it makes sense sometimes to buy, you know, not reinvent the wheel but you hvae to, you know, assess the cost of the already-invented wheel versus the perceived benefit of it.

And that kind of leads to my next question. A couple of panelists commented that standards are under consideration for adoption are in the public domain, and I was wondering how you always ensure that, given that technologies often enter the marketplace years before a patent covering that technology issues from the Patent Office.

Is there, for example, an explicit duty to speak imposed upon members of the standard-setting body to notify everyone else that, hey, that's standard. You're

considering, you know, I own that. And there'll be a lot of
license fees imposed upon you know the end use customers as
a result.

MS. SILVERSTEIN: Mr. Britton?

MR. BRITTON: Yes. It's inherent in standards
processes in general that the parties that come to the table
and in general make the standards because they're
contributing all of the detailed work. First of all, they
all have parochial interests, they all come to the table
with lots and lots of proprietary information, and they're
coming to the table because, for one reason or another,
their standards need to be made and they understand that
they're going to have to give up certain things in order to
move forward, and there's some sort of carrot out there for
them; otherwise, they wouldn't be around the table.

And it's also important to understand that when
you come to the table with a whole system that's proprietary
into a standards body, you're not looking at making the
whole thing public domain or losing all of your proprietary
interests. What you're doing is identifying certain areas
that are going to be standardized, and those are the things
that become public domain. So you suggest that we should
draw an interface point here, let's agree that that is going
to be published and there's a process and indeed a
competition sort of that goes on to see whose ideas get to

set the detailed direction for that particular interface and the understanding is that once it's adopted, it goes into the public domain.

MS. SILVERSTEIN: So what you're saying is part of the game is folks who invest in proprietary stock are willing to give up parts of it, and they hope that they'll get some of the investment money back to go to Mr. Ott's point.

MR. BRITTON: Oftentimes.

MS. SILVERSTEIN: Does that make you happier? Does that make everybody else happy?

MR. TALLMAN: I wouldn't say happy, I just know where the panel's coming from.

MS. SILVERSTEIN: Okay, and let me ask you a question if I can, a Mr. Hansen from Seattle City Light. Yes, you. And that is both of you all want this to be run by NAESB because you're concerned that the ISOs and RTOs are a little too invested. And my question for you is their main point in favor of having the RTOs do it is that the RTOs are the only ones who are accountable to FERC.

And let me ask you what vehicle is there that requires NERC, which is a voluntary organization, or NASEB, which is a voluntary organization, to do something like this and get it done in a public interest fashion.

MR. TALLMAN: Then I wasn't saying, in particular, that NAESB was the right standards committee. I'm a little more comfortable with NERC being always understood as being the operating arm of FERC, so there is some kind of relationship there.

I was just commenting on the appropriateness of the ISO-RTO in this chart, the placement in this chart, as opposed to, you know, whether its NAESB, EPRI, or some other organization.

I just think that, as you put it, they have a vested interest, some of them may, in what transpires.

MS. SILVERSTEIN: And yet NERC, for example, excludes a number of players from participating or being members.

MR. TALLMAN: Again, you know, NERC is one option I'm more comfortable with than I am with the ISO-RTO.

MS. SILVERSTEIN: Okay, Mr. Hansen, did you want to talk about this?

MR. HANSEN: Yes. My only concern is that the ISO-RTO is shown as a standard-setting organization on that graph, and I was just really wondering if that was the intent.

I understand that they have a vested interest in it, as do a number of other industry segments like marketers LSEs and other folks who all have interests in getting this

done. I think the ISO-RTOs, that's absolutely right when
Don says that they're the ones that are really going to
drive this process.

But I thought that they were all voting members
of NERC, at least all of those segments were, except for
vendors, in some cases. I don't understand why they're not
voting members of NAESB, because it seems to me that they
are a very important segment, and I would think that maybe
WQ should solve that problem.

But if they are voting members of both NERC and
WQ, and WQ is given the task of getting this done, it seems
that the drivers are then in place, and you have all of the
industry participants being represented.

MS. SILVERSTEIN: Thank you. Let's -- I'm kind
of new at this consensus-building thing, but we'll take --

(Laughter.)

MS. SILVERSTEIN: I'm just used to being in
charge. Yes, sir?

MR. SORENSEN: My name is Paul Sorensen, I'm
representing Open Access Technology. I guess I don't really
have a problem if the ISO-RTOs are compelled to deliver a
standard, however, that body must be fully open.

And, I think, to some of Mr. Watkins's questions,
his four questions, the only one I would think that I would
agree that only maybe an ITP/ISL/RTO could do is

impartiality. I think the compelling the performance, the need, are equally on the market participants, as well as the RTOs.

The other part that hasn't shown up here is what are you going to do about the non-jurisdictionals and the seams they will create when you're trying to coordinate market operations and energy transfers across entities that are not going to be SMD. I think they need a seat at that table, so as long as that middle box may be funded or sponsored by ISOs, but the makeup of that box must be fully open.

And leading to Jay Britton's diagram, it looks very similar to how the ESC-OSC has related themselves with NAESB, NERC, and EPRI.

MS. SILVERSTEIN: Okay, so what I'm hearing is -- I'm going to interpret what I'm hearing is that ISOs, RTOs, might be the appropriate project manager? Does that work for people?

MR. WATKINS: (Nods affirmatively.)

MS. SILVERSTEIN: And there needs to be huge amounts of coordination and refinement and openness as to who participates in that and who feed up to them, although my understanding is, particularly non-jurisdictionals have a large role and contribution in ISO-RTO discussions already, as do entities at the NERC venue, right, okay?

Mr. Hirsch, are you stretching your legs, or did you have something to say?

MR. HIRSCH: I'd like to talk about --

MS. SILVERSTEIN: Please do.

MR. HIRSCH: First of all, I'd like to mention that most of these people are involved in the EPRI CME work, and we welcome their contributions in various forms.

I more or less agree with this, although there are probably some details that have be worked out. But what I want to point out is that the role we see in EPRI in all of this is that we would see the RTOs and ISOs, as well as maybe other entities like generating entities, load-serving entities, and vendors, being contributors to it, in that EPRI sees its role as being the project manager to be doing this work.

So, we see our role as being the project manager to facilitate that work, and I agree that it has to be an open design, open system to do that.

MS. SILVERSTEIN: But let's be more specific. When you talk about doing this work, point to the spot on this chart that is the work that you all want to do.

MR. HIRSCH: Well, I would say that I haven't gone through this line-by-line, so I don't want to say exactly, from what has been said there, but what we see our role as is to work on the data, the communications, and both

within the RTOs, between RTOs, but I haven't gone through

this chart, line-by-line, to say which ones we would do and

which ones we wouldn't.

We would look at software architecture and

security standards, but we would work with NERC and NAESB on

these issues as well, and take what they have.

MS. SILVERSTEIN: And do you all see yourselves

as in charge, or do you see yourselves as a project manager

taking orders and requests from these other entities?

MR. HIRSCH: We see ourselves as -- well, from

the ISO and RTOs, we're looking for funding from all these

groups to do that, so we see ourselves as clients to these

groups, and we also see ourselves as coordinating between

these groups, as well.

MS. SILVERSTEIN: Okay, so I'm hearing that you

want to be a project manager.

MR. HIRSCH: Right.

MS. SILVERSTEIN: Okay. Mr. Britton, did you

want to say something?

MR. BRITTON: Yes. I have been involved in the

CME startup work, and it is certainly concerning itself with

many issues in the center box here. And I think it's

actually not the issues list so much as the issue of project

management and organizational management.

In the Dallas meeting, EPRI did propose some sort

of membership structure and funding structure, you know, and it's not just a technical working group. And the organization part, I think, is the area that concerns me the most, because how many project managers do we have for this?

MS. SILVERSTEIN: Well, I see a proliferation of people willing to manage this project.

(Laughter.)

MS. SILVERSTEIN: Mr. Michor?

MR. MICHOR: If I can comment a little bit on the Ontario standard again, when the working groups were developed, it wasn't a very large team, but setting out different targets for things to be done to hit timelines, somebody came up -- somebody basically said, I will do the security standards, and they said, okay, provide that by next week, next month. That's the strawman.

Then the strawman goes to the other players, and the other players are able to take a look at that, and they are able to tweak it, and they are able to add to it.

I don't see why that process can't be the same, where they can -- you can manage certain areas and that's your job, but the idea is timing and bandwidth. If you take too much on, you're not going to get it done, so what you really have to do is, you have to take a look at the different players.

And it doesn't matter if it's a vendor; it

doesn't matter if it's an organization; it doesn't matter if it's an ISO that takes it on; the point is that's the internal workings of the process. Their job is to bring back a strawman for everybody to take a look at it, so by working out a process like that, then you actually are somewhat achieving your goals.

You still need somebody to chair. The chair could change around. And you still need other people to organize underneath that, but needless to say, there are certain things to do within this whole process, and nobody is going to do it on their own.

MS. SILVERSTEIN: Let me go to a question that Mr. Swanson was good enough to bring up in the morning, and put it back now because EPRI brought it up again this afternoon. And that is the issue of money and folks wanting to get their money back for investing in this new set of public goods, if you will.

Other than through the ISOs, is there any other mechanism for people to be paid for doing this? How much of this would you all in the industry do out of the goodness of your hearts and the generosity of your income streams, and how much of it would you, because you know that since most of this is going to be open standards, you ain't going to get it back in royalties or in fees, so unless you do it under an ISO or RTO-coordinated entity that can enable

funding and hire you to do this development, how do you get your money back?

MR. RISTANOVIC: I would like to make a comment about that. I didn't understand this chart excluding EPRI as a facilitator. I see this more as -- I saw RTOs as a customer owner of everything. I mean, they are funding, and they have to decide how they want to do it.

And if you follow CIM, definitely it would not be smart not to include EPRI and the processes that are in place. And independent of this approach, I think that ISO-RTO proposal has a big value, because I assume they are willing to put some funds in place, and not just to do it, because there is a cost to maintain this standard, so it's a long-term cost in maintenance.

And those two should be separated from extra project implementation, but what I don't like to see is consensus-building that we had in EPRI before on similar efforts, because that takes five years, plus.

MS. SILVERSTEIN: Okay, so you like the consensus and not the timeframe. Mr. Ott?

MR. OTT: Yes, and I think, again, if it's the ISO-RTOs together, jointly funding it, then all the stakeholders have essentially contributed equally, so there is no issue of one stakeholder funding another, if you are another group.

I think that whole concept of the funding path goes back, essentially to benefit the customers of all of the RTOs, who are essentially the ones who are funding the effort, who are ultimately the beneficiaries. So I think it actually works, as opposed to, you know, some of the issue of one set pays and everybody else uses. I think that becomes problematic, and I think that in this case, you're talking about the group joint-funding, which really eliminates that issue, and then they could hire EPRI or whoever, to actually perform the specific result and product, if you will.

MS. SILVERSTEIN: Mr. Buccigross and then Mr. Watkins.

MR. BUCCIGROSS: Thank you. Jim Buccigross for NAESB. I thought I was going to get to sit quietly in the audience this afternoon, but apparently that's not the case, so a couple of comments and I'll be brief, and combine it to the chart. One is that the standards development process to come up with a standard and say this is the standard; it's going to be an A-B-C format or X-Y-Z format, is relatively easy.

To turn that standard into an ANSI standard, into a rule, if you will, is not quite as easy as people want to make it out to be. GISB, now NAESB, has essentially eight years of process at this. It took us three years to become

ANSI-certified.

I have no problem with the ISOs and RTOs being involved in the process. I have no problem with them understanding the business and sending their experts, but I would agree with, I guess, the gentleman from Seattle City Light and the other gentleman who spoke, whose name escapes me, whereby the communication to the FERC, when it becomes a rule, probably belongs to either NERC or NAESB, sometimes both.

I can see standards that impinge on both reliability and commercial practices, maybe coming in a joint filing. Anyone can participate in the NAESB process. There's a technical advisory group representing the ISOs and RTOs.

I'm not trying to tell the FERC what to think, but the next thing you can do is also put EPRI in there, and then you have five or six people bringing standards to you that may or may not be coordinated.

MS. SILVERSTEIN: Is there anything -- if it were decided that it was a good idea to use the ISOs and RTOs through a consortium to be essentially the project manager for this effort, is there anything in that that precludes them working closely with NAESB and NERC and the guidance and processes that have already been built up in those, to make sure that everybody is doing the parts that they ought

to and are being informed by the experiences and successes of each group?

MR. BUCCIGROSS: The quick answer is no, and I want to say that plainly. However, the thing I heard that actually got me out of my seat was something to the effect -- and I apologize if I'm misstating it -- we'll wash this through the NAESB process and make it a standard. It's a little more difficult than that.

MS. SILVERSTEIN: Okay, you heard it here; NAESB is not suckers.

(Laughter.)

MS. SILVERSTEIN: Mr. Watkins.

MR. WATKINS: Boy, I'm glad to hear that.

So that really was the thought. We can cook, and I think the ISOs and RTOs can cook really fast, and I think they can do a good job, and they would involve all the stakeholders; they have to, including the EPRI stuff.

So you cook because you knew you had to pass through this rigorous process of the NAESB thing, because the codification of it would really come through NAESB. So I don't think there's a conflict there; it's just that you put out a package with that in mind, and then you have to take the outcome, right, because that's how those standards processes work.

So, my other thought is that I think we want to

use the best practice, the best of the industry. That's

really what you want to do, and I think that's what everyone

on this line has been saying. For instance, I think that --

 I don't think there is any question, for instance, that CIM

is the only obvious best practice for a lot of the

definition of how we do market and developing that.

But our thought was, so we ask EPRI to do that,

and they develop that, they don't worry about all the market

rules, all the use cases, per se. They take what's been

given to them and they provide this standard, you know, this

book, really, that has a definition of all these variables -

- and that's excellent work; it's what they've done for a

number of years and they do a great job -- and add it to the

process and to the tools that we use.

And I think that's the type of thing you want,

which I think was what Gary was talking about, that type of

model.

The last thing -- and I just want to say it

quickly -- my model, in its simplicity, was really -- I

think it's completely consistent with this model you see in

front of you. They are the same, basically.

MR. RISTANOVIC: Not exactly, but I will try. It is very important to manage expectation and scope. We have to do what Gordon said, that market rules and operating procedures are outside the scope, in my opinion, what CME should be doing.

I second what Jay said, the CME is a good kind of starting seed working group that will be managed by RTO and ISO in sharing this goal.

But you also have to be very careful what NERC was doing before in the ESC/OSC was not just organizational data; it was standards implementation and protocol in the sense of implementation technologies.

And our recommendation is not to go that deep. Standardize interface protocols, but don't standardize implementation.

MS. SILVERSTEIN: Was NERC doing that because no one else was doing it?

MR. RISTANOVIC: Exactly. The time you had the problem of scheduling across the cultural areas. They didn't have any other solution in place, and that was necessity. That's why you have ETAG'ing.

MS. SILVERSTEIN: So in other words, the ESC/OST is still the right one to do it, but they don't necessarily need to keep doing it for NERC anymore?

MR. RISTANOVIC: Well SMD resolved that problem

differently, and for that RTOs can define market rules and procedures together with market design are taking care of that problem.

And then our recommendation in standardization, don't go into implementation because implementation will prevent competition. And saying you're going to do scheduling using SMXP with this message over this protocol is standardization implementation. We would like to stay short of that so competition is still possible for different implementation of the same standardize interface.

MS. SILVERSTEIN: Mr. Britton?

MR. BRITTON: Okay. The ISO/RTOs drive here. Now they have to drive, and drive down into the process by starting out and looking at priorities as far as what is important to resolve standardization issues on what time scale.

Let's presume that they decided that the data transport was a good thing to attack. But I think that is part of the process, not something we would decide we would preordain here.

But let's presume that they did. In the event they did, they would form a working group on that to suggest what the standard interface should look like.

Now that working group automatically is going to be populated by people with an interest and expertise in

that particular discipline. And it is automatically going
to have the NERC/OSC, for instance, which is to put together
a mechanism that probably would be a candidate, and it would
probably have the Ontario folks. I'm sure Gary would be in
that group, because they have a mechanism.

And that group, not OSC but that group that would
have participation from the people who worked in this field,
would make a decision that proposed what the standard was.

And, you know, likewise on all of the other
areas, the drivers sort of set priority and create working
groups and outcomes of decision, and those parties that are
logical to work in various working groups work there.

MS. SILVERSTEIN: Okay. Would your heart be
broken if we don't get to you yet?

VOICE: No problem.

MS. SILVERSTEIN: Okay, let's take a shot at
something. Suppose we say that there is a project manager
entity, and that project manager is the ISO/RTO.

Suppose we then say that its job is to coordinate
the work of all of these groups, and to take all of the
tasks that are now being conducted in this chart in open
processes with all of you all, and hundreds of your best
friends, call meetings and start hashing through what are
the priorities and who is going to do what? Does that work?

MR. WATKINS: I think that could work.

The problem is what you've done is created a layering of organizations, organizational structures, approval standards.

So if you use the people from those groups and the expertise and the representation in the process of the project manager so they can come to your process, that's one thing.

If you go out and sort of subcontract, which it looks like you're saying you're not, then you've got maybe more issues.

MS. SILVERSTEIN: I think what we need to do for starters is have all of you guys get together in a room and start figuring out who is doing what, and making sure there is only one group of people doing each. And that all the right stakeholders are in each of the right groups so that nobody is calling meetings on the same day on opposite ends of the country and nobody is making decisions over here that really ought to be made by this group over here; and that folks who knows folks who have contributions to make know what the terms of the deal are.

But the thing that is fundamentally clear from this point in the presentation is there is no project manager, and there is not a lot of accountability. What there is is a lot of wasted time and money that we have got to stop.

So I am not saying this is the ultimate
structure, but I am asking is this the right starting point?
Or, first off, dividing the work. Agreeing on
accountability. Saying not just accountability but this
specifically is going to do what with respect to starting to
assign work and to do very tangible and specific things, and
saying things like I am going to hire you to do this as
opposed to just you're going to volunteer.

And also in starting to develop schedule and
priorities. Is this the right starting point for
facilitating those discussions and getting a product out?

Because it seems that the next step needs to be,
after these decisions are made at least in principle,
somebody needs to put them down on paper so that everybody
gets a chance to look at them and sends them up to this
Commission so that this Commission can say: That's a great
idea; go do it.

MR. MICHOR: I would say I see one issue with
this. You have who to do what before you take a look at
schedules. The idea is that--

MS. SILVERSTEIN: But this group would resolve
all those things together.

MR. MICHOR: But what I'm saying is I still come
to the point of bandwidth and time frame. You don't give
something to somebody that comes down to the project

management, too.

If people--if there are different parties that want to do something, then what you have to do is you have to take a look at the time lines that they commit to do that.

Now if they're not, then you follow through as a project management point of view at certain points in time if they're not meeting certain items that they have to get done to finish their project.

MS. SILVERSTEIN: Let me be more specific. I envision this as being we need a project plan, and we need one entity or group of entities to be in charge to develop the project plan.

The first phase of it is, broadly, what group within--this is the NERC/NAESB/ISO/RTO/EPRI divvying up the turf line, going back to the sorting out Gordon's chart and being far more specific about is it a standard or is it standardization, because those are very different things and I think we have hurt ourselves by having the same word at the root of both.

So it is making sure that each of these maps to the proper organization. The other thing that I think it needs to do is to say not just accountability but on who does what part of this goes to it's something that everybody can sit around this room and agree to, or can we just agree

to steal it from somewhere else? Or, alternatively, does this require new development that we have to hire out? Or does this require, et cetera, et cetera.

So there is a first year, which is just figuring out what the heck we're going to do, and what the set of priorities is, and by schedule we will have this milestone accomplished next Thursday, but this is the stuff that needs to be done first, and six months is the right target date for completion of that so that we can then build additional pieces on.

So that is what I am thinking of as a high-level project plan and structure for making that happen based on the conversation I have heard so far.

MR. WATKINS: I know we have a line here, and all that, but you can see we're going to get thick into controversy really quick.

So what I see here--and I am a little afraid of it not from a control point of view, but suddenly we went from saying we're going to clearly define responsibility, so we're not going to tell you how to do it; we're going to say you're responsible. The outcome has to be acceptable to the stakeholders and has to be able to pass a rigorous standardization process.

If you say that, my thought would be that is sufficient. Let the RTOs who have been given the

responsibility to be successful, let them figure it out and put the people together. They are going to work with the people. The people are going to come to them. They are going to go to the people and work it out.

If we start--my thought is, you start this, you start dividing who is responsible and you end up with kind of a mess.

MS. SILVERSTEIN: I hear that, but there are a lot of people in this room who don't seem to entirely trust you all, and who need assurance that they too have a role in the universe.

So I am hearing that that needs to be put on paper and publicly aired to some degree.

MR. WATKINS: It is just Andy not trusted, because I'm not part of an RTO yet.

(Laughter.)

MR. WATKINS: So it's just Andy.

MS. SILVERSTEIN: Yes, but I know you better.

(Laughter.)

MS. SILVERSTEIN: Yes, sir.

MR. TAYLOR: Doug Taylor, Director of Strategy at MISO. We fully support this effort. We will get started on it as soon as you want us to do it, and we will be glad to put the resources on to make certain this gets done in a time frame.

We are already working with PJM on the Joint and Common Market. We need a number of these issues resolved to get it done in a timely and cost-efficient fashion.

That's all I have to say. We're all supporting you.

MS. SILVERSTEIN: That was worth waiting for.

MR. TAYLOR: Yes, because you made it easy for me.

MR. SASSON: From the rubric of learning from experience, I remember something Jay Britton just said, that the reason CIM worked was that all the vendors knew that they had to give in something in order to get a standard. But what was the real incentive?

CIM was really developed, or initially developed for control centers of utilities across the country, across the world. So they knew that coming projects in the future would be requiring some of these standards.

So a vendor that did not ascribe to those standards would not be able to sell their products later on. So there is an incentive through the marketplace.

ISO/RTOs do not have the same incentives. They are not vendors out there. They are not going to be selling their systems to others. So the question is:

What are the incentives for the ISO/RTOs to agree? It's not one body. It's going to be a number of

people. I remember last year we went through a mediation
effort on the Northeast RTOs that was very, very difficult,
very contentious, would you not agree, and a lot of things.
But then how do we get to it?

I suggest that you put a line up there saying
"FERC" on top of the RTO/ISO to resolve differences.

MS. SILVERSTEIN: That was my guess.

MR. SASSON: It's a very good organization and
will work.

MS. SILVERSTEIN: When you only have one colored
pen, you use it sparingly [referring to 'FERC' in red ink.]

Yes, sir.

MR. BROOKS: Yes, Alison. Dick Brooks from
Systrens again.

I just want to take up on something you said just
a few minutes ago about re-use of work. I'm speaking as one
of the Chairs within the Retail Electric Quadrant of NAESB.

One of the action items, or one of the areas of
responsibility for the technical group is to develop a dated
dictionary of common business terms that we can use to kind
of govern ourselves and define semantics around the retail
electric quadrant.

And when I started looking around at what were
our options for beginning this task, the first thing I found
was J. Britton. Actually, I got the contact to him through

Europe because I was asking what they were doing to develop
common standards in this area.

And when Jay started talking about CME, it became
apparent to me that this sounded like a good starting point.
And so NAESB, rather than starting from scratch and
developing a data dictionary that may be incompatible to
what has already been developed in CIM, we decided to begin
an effort to communicate and share what each other had
accomplished.

I am pleased to say that on Monday we will be
meeting in Minnesota to further that effort with the hope
that we will one day get that CME effort into NAESB.

So I think we sort of have already started what
you are asking us to do. I think there are certain areas
that people haven't been quite as congenial in working
together, and I think if we could get some direction from
FERC to suggest a forum where this should take place, and
perhaps even a little guidance on how it might happen, it
would be very helpful.

MS. SILVERSTEIN: Let me be clear that we are at
the moment engaged in a discussion, and that what you hear
from me today is not direction from FERC.

There are only four people who give direction
from FERC, and they are the ones whose names ought to be at
this table.

But what you are hearing from me today is an attempt to facilitate you all asking us for direction by telling us what direction you want the Commissioners to tell you to march in and what formation you want that marching to occur in.

So what we are trying to do is leap on board a moving train and encourage you to move faster and more constructively.

MR. BROOKS: If I could also ask you to put your previous slide back up for just a moment, from NAESB' standpoint, or at least from my standpoint as one of the NAESB's Chairs, we would look at any developments or any specifications coming out of an external body not as standards but rather as recommendations.

So if the ISO/RTO forum were to be established and did develop some kind of specification, they would come to NAESB as recommendations.

And as Jim alluded to earlier, NAESB doesn't rubberstamp. NAESB has a very formal ANSI-standard process that we follow in order to keep our certification, and we ensure that everyone has an open voice in developing a standard.

So a recommendation could be enhanced several times over in order to get all the input from all the market participants and all the players in developing this

consensus standard.

MS. SILVERSTEIN: And again this goes to the distinction between standards and standardization. It is entirely possible for stuff that the ISOs and RTOs or other bodies decide need to be done that does not need to become an ANSI standard to become effective and adopted quickly. Correct?

MR. BROOKS: Well I take a parochial view that standards have to be developed by a standards body. You know, a vendor could perhaps develop--

MS. SILVERSTEIN: Okay, we've got that.

Yes, sir?

MR. SINGH: Jujit Singh with River Project in Phoenix and a member of OSC.

I have a couple of questions. One, the ISO/RTO organization that is being proposed here, how would they make sure that all the stakeholders are being heard?

Because one of the things I guess the concern I would bring is that how you define these standards, and the cost of implementation for RTO versus a participant can vary very significantly. So how do we make sure that there is a fairness in this process?

And the second question I would have is: I heard some comments saying that, you know, when we did the implementation in the past we went too far detailed into the

standards and there was more vendor oriented.

But my question is: Even with those details, we had a difficult time from vendor to vendor participation. They had a problem in trying to talk to different vendors.

So I think the standards need to go as far as possible so we don't have interoperability problems and standards are true standards not guidelines.

So those are some of the comments. But I would like to hear from the panel how would we make sure that the marketers interests are kept in mind in that process?

MR. VAN WEILE: I think the--this is a gut reaction, speaking as an individual here rather than trying to represent the ISOs and RTOs, but I don't think we need to go off and create another stakeholder process. We've got one. It's called NAESB.

You've got five sectors in there that represent all the players in the marketplace. So I think that what we do needs to go through a review process with NAESB, but like in our own little microcosm in New England, or PJM, whatever, we go through a stakeholder review process with essentially the same sectors at a regional level.

So I think there are mechanisms in place to actually do it regionally within the scope of the ISO and RTO territory. And what we've now created through NAESB I think is a national stakeholder review.

In that situation, wouldn't it be better that NAESB created this organization that was defining the standards rather than --

MS. SILVERSTEIN: The NAESB doesn't actually have to get the work done, and these guys do.

MR. SINGH: Okay. But they could still be participating and making sure that the work gets done.

I think my concern is that while you define standards through this process, which is not fully participated by all the different segments of the industry, and then you try to go through the NAESB process and it fails, then you're going to have more time spent in that process.

MS. SILVERSTEIN: One of the things that I think is implicit in this kind of coordination under an ISO/RTO project manager structure, is that it would be necessary for the ISOs and RTOs to integrate the NAESB review and input process far more effectively from the beginning to the degree that NAESB members care about some of the technical issues.

Because some of them, I would guess that NAESB doesn't really -- a lot of the NAESB stakeholders don't want to be a part of it. And I haven't heard any indication of a lack of openness for participation.

But again, one of the things I'm trying to get is

you all to say, okay, here's a proposal or here's a
counterproposal or something, and I'm not hearing that.

I do want to ask one question as an aside going
back to here, and that is which of these things in
particular in this space can be done today without
completion of standard market design. Do you need SMD
decisions to be complete in order to do data --

MR. VAN WELIE: Security standards would be one.
I think you could get going right away on security
standards.

MS. SILVERSTEIN: What else?

MR. VAN WELIE: I think the basic, to the extent
that we can use the SMD rulemaking, NOPR as an indicator of
where it's going to end up, you could really get started on
defining at a functional level what functions need to be in
place, and therefore at a software architectural level, what
needs to be in place. So that work can get started and may
have to be tweaked a bit if you change direction in the
future.

MR. BRITTON: You want to distinguish between
having to get started and having to finish, okay? Most all
of this work can be started. But what you want to do is let
the parties driving the ISOs that are driving the process
figure out which areas are most safe to start work on where
you can be productive in the absence of completion of the

SMD. And certain things will have to be held off until later until it's complete.

MR. RISTANOVIC: There are many areas in SMD today, even in the first place as of July that give us enough details to start work, especially in CIM model extensions and identifying some of the important functional blocks. And already in the first meeting of dollars we identify some of the business processes that are in good shape right now from the description point of SMD that can be subject of work.

What is the key in this process is that we start those pieces where you have minimum throwaway. Whatever we do, when it's not finished, okay, there will be some throwaway. But if there are some areas where that throwaway is really minimal, it makes sense to start now.

MS. SILVERSTEIN: Let me ask another question. Does it make sense that if we can set up a process where there is significant early phase coordination, does it make sense to have NAESB and everybody else doing separate stand-alone annual business plans, or do we want all of those to be developed in cooperation and consultation in a venue like this so that everybody's plans complement each other and you know who's doing what and how it flanges up?

MR. VAN WELIE: That would be preferable.

MS. SILVERSTEIN: Preferable? Okay. It's 3:28.

Does this concept work for people as a starting point?
There is clearly significant work and discussion on
coordination that needs to be done. And it sounds like
everybody needs this Commission to say, yes, everybody go do
the following things. But we need you all to bring us a
plan that says here's who's going to do what and here's how
it's going to be coordinated and here is some agreement
between all of the players that this is how it is going to
proceed.

Are you all willing to undertake that? And is
this the right starting point for doing so?

MR. MICHOR: I just have one question here.
You're putting yourself now in the project manager role I
think.

MS. SILVERSTEIN: I'm trying to project manage
the project managers.

MR. MICHOR: But what I'm saying is, is some of
the things you're saying there, I think it's the
responsibility of the other project manager, which is the
ISOs and the RTOs. As long as they get the job done in the
timelines you want them in.

MS. SILVERSTEIN: But what we have heard is that
all of these other folks have a stake, and they all need to
be consulted.

MR. MICHOR: Right.

MS. SILVERSTEIN: And what I am asking is, are you all as the various players within this -- and stakeholders to these groups, willing to go off and bring forward a proposal that says here's how the work is going to be divided up, here's what the accountability is going to be, and here's a set of priorities and broad schedules for doing so?

MR. VAN WELIE: Let me just say that I think the FERC needs to give a strong signal that that's the direction you want to move in before you're going to get serious engagement. Because at this point, this is a concept, it's a discussion, but there's going to be an equal number of people on either side of the fence as to whether it's a good concept or not.

So in order to get some traction in the discussions, I think you're going to need that signal. I don't know how you do that.

MS. SILVERSTEIN: Suppose that Staff sends up a memo to the Commissioners summarizing this and saying this is the Staff recommendation on how to proceed? And the Commissioners talk about it in open meeting and say, yep, that's a good idea, you all go do it. Is that strong enough? Does anyone have huge heartburn?

MR. BENNETT: I have a question. I'm Mark Bennett.

MS. SILVERSTEIN: Use the microphone, please, Mr. Bennett.

MR. BENNETT: I'm Mark Bennett with EPSA. I have a question. The way this has gone today has drifted a little bit away from the focus of EPSA's members. Our focus has been first of all at NAESB as the standard-setting body, and the other focus we have, which we're gearing up now to work with our friends at NERC, is how do you deal with the multi-dimensional nature of the standards?

That is, most of the standards are coins, and you flip them over. On one side is a system security concern, and on the other side you have a market business commercial impact. How do we develop a new approach to standard-setting? How do we reorient it so that these dual concerns now can be better balanced and addressed than they have been before? These are new demands on the industry.

What you've introduced today, this new concept -- and again, I'm not really completely clear on it -- of this notion of the ISOs and RTOs being project managers, is a little bit -- it's not immediately clear to me how that would affect the course that we have been on. The WEQ of NAESB just selected five representatives to meet with five representatives from NERC to discuss a coordination protocol. It is my expectation and hope, and I'm speaking on behalf of the EPSA members I'm working with, is that as

part of that effort, that would involve -- and this

dovetails with some of this -- developing criteria and

guidelines more than exist today for distinguishing between

what's reliability, what is core reliability, what is a

systems security issue, and what is more of a market

commercial issue for this purpose. Not because some

institution then will win that particular round, but rather

that we get the right expertise to work on the standards, so

that all the issues that are embodied or embedded in the

standard are addressed and everyone's concerns are

reconciled and so forth, and at the end of the day,

everything works.

Now I understand that the ISOs are the last stop on this magical standards tour, but I am not quite comfortable yet with what has been explained today of how they, or what their role is given I've described is EPS's approach to this, and I'm largely agreeing I want to be clear that with what Dave Dwarzak described.

So that is where EPS is at, and I look forward to working with this body. Again, I think one of the key things here is that's kind of getting lost with the logistics of this is what is the criteria for distinguishing these dual dimensions that are going to be embedded in virtually all the standards?

MS. SILVERSTEIN: Yes, sir.

MR. NUEVA: I'm Steven Nueva. I just have a slight worry about the way you surmised this.

Unlike Microsoft, the software vendors don't have 70 million customers. As a matter of fact, there are probably most of the vendors in the room that are after your order. That will be RTOs implementing the standards.

So a big worry I've got is the cost/benefits and schedule. Dan Watkins made an excellent presentation; so did Gordon.

I would like to have two questions to Dan Watkins presentation. Who knows best how much it costs to develop software, and the impact on the standards of software? Who

has to divvy up at the end against an impossible deadline?

So in the past, when EMS vendors and scalar vendors have had the end of the whole in implementing the specification, what I propose is that the vendors play a much stronger role up front with the ISO and the RTOs and the other coordinating bodies, and that we work on the partnership type arrangement where we can feed back to the various entities the impacts of this chosen versus that chosen.

We--Jay and a number of us are extremely support of that effort. We want to see standardization. It has been proven that standardization is good for everybody, is good for all the end users, is good for the vendors, and we would like to see the same thing happening with the market system and standard market design.

MS. SILVERSTEIN: Thank you very much.

Okay, are you lurking, or--

MR. PHELPS: No, I'll be glad to say something.

MS. SILVERSTEIN: Make it fast.

MR. PHELPS: My name is Alan Phelps. I'm with the Midwest ISO. I'm also Chair of the OSC. So I am John Canavan's alter ego, who spoke earlier.

I would like to offer on behalf of the OSC and the Midwest ISO, you know, the offer of chairing an organization to try to put together this proposal. You

know, we could make it an open organization. Anybody that wanted to attend, we could.

I know most of my peers at the other ISOs and RTOs. I would be glad to try and put something like that together under a little bit of direction from FERC.

MS. SILVERSTEIN: Thank you, very much.

Let me tell you what I think we're going to do now to wrap this up.

We will at the staff level prepare a memo or paper summarizing what we think we heard, what we think people's concerns are, and what we recommend as a way of going forward.

Some of the ideas on this piece of paper will sound familiar when you read that memo. We will then likely put it out to--do we know who is here? Everybody drop a card up front and we will then--what we will do is send the memo out I think for people--this is not a due process, formal thing. We are going to invite your comments and feedback as a courtesy. So this will be fast turnaround.

We will shoot for getting this memo out in a week or two, maximum. We will send it out by e-mail through the various organizations that are in this room who we know of, and invite you to send it to each other so that everybody will get it multiple times. There will be nightmares, incidentally, but we can't help that.

We will then ask you to come back with quick, to-the-point critical e-mails. A lot of us travel too much. If an e-mail is more than three pushes, two pushes of the 'more' button on my Blackberry, I'm not getting to the bottom of your e-mail.

So make your feedback crisp and to the point and we will tell you who to feed back to. And then we will do some revisions to that memo and send it up as recommendations to the Commissioners, and the Commissioners do what the Commissioners do with it.

Can everybody live with that?

Thank you so much for coming. I think we made process. I hope you made process, and we appreciate it. Thanks.

(Whereupon, at 3:36 p.m., Thursday, 3 October 2002, the meeting was adjourned.)